
BARRIER ENFORCEMENT

DIVISION 7: PATROL

SECTION 1: OVERVIEW

7/1/1 DEFINITION

Patrol is the maintaining of a Customs presence, usually at a Customs control point and can be conducted either in uniform or in plainclothes, using any mode of travel.

7/1/2 LEGISLATIVE AUTHORITY - (CUSTOMS ACT)

- (1) Section 32 - Power to examine goods subject to Customs control.
- (2) Section 187 - Board, search and secure goods on any ship, aircraft or Australian installation.
- (3) Section 188 - Stay on board any ship, aircraft or Australian installation.
- (4) Section 193 - Patrol coast, bay, river, harbour.
- (5) Section 194 - Power to moor a Customs vessel in any place.
- (6) Section 195 - Power to question passengers.
- (7) Section 197 - Power to stop and search suspected vehicles.
- (8) Section 203 - Power to seize forfeit goods.
- (9) Section 210 - Arrest of persons suspected of smuggling.
- (10) Section 219L - 219ZJ - Detain and search persons.

Note: Customs officers also have powers conferred by various other Sections and Acts, refer 2/3/12.

7/1/3 AIM

- (1) To establish and maintain an effective control environment over all persons, goods, ships, installations, small craft and aircraft under Customs control.
- (2) To prevent and/or detect breaches of Barrier law.
- (3) To gather and update information on:
 - (a) All activities conducted in Customs controlled areas and installations
 - (b) Narcotics and other drugs

7/1/1 - 7/1/3

7/1/3 AIM continued

- (c) Quarantine (health, Animal, Plant)
- (d) Wildlife
- (e) Illegal Immigrants, Stowaways and Deserters
- (f) Revenue matters
- (g) Other Customs activities

7/1/4

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7/1/5

BARRIER ENFORCEMENT

7/1/5

s47E(d)



7/1/5

s47E(d)

7/1/6

SECTION

7/2/1

7/1/5 - 7/2/1

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7/2/1

s47E(d)



7/2/1

BARRIER ENFORCEMENT

7/2/1

s47E(d)

7/2/2

7/2/3

s47E(d)



7/2/3

BARRIER ENFORCEMENT

7/2/4

s47E(d)



7/2/4

s47E(d)



7/2/5

BARRIER ENFORCEMENT

7/2/5

s47E(d)

SECTION

7/3/1

7/3/2

7/3/3

7/3/4

7/3/5

SECTION

7/4/1

7/4/1

s47E(d)



7/4/2

7/4/3

7/4/4

BARRIER ENFORCEMENT

7/4/4

s47E(d)

7/4/5

SECTION 5: SAFETY

7/5/1 AREA OF OPERATION

- (1) The area of patrol activity is of prime concern as some patrol areas are more hazardous than others (eg. remote areas).
- (2) Operational requirements do not take precedence over the safety of officers.
- (3) Plan for safety during patrol and ensure that first aid kits, rescue arrangements etc. are resolved.

7/5/2 POTENTIAL HAZARDS

It is essential in the planning of patrols that all possible problems be considered and provided for. These include:

- (1) Ailments/allergies of officers in patrol unit.
- (2) Assault/intimidation.
- (3) Vehicle breakdown.
- (4) Hazards of the terrain.
- (5) Communication problems.
- (6) Wildlife in remote areas/pets on ships.

7/5/3 CLOTHING

Care must be taken to ensure that suitable clothing is provided for, being:

- (a) comfortable/practical; and
- (b) as determined in the patrol requirement and supervising officer's direction.

7/5/4 EQUIPMENT

- (1) Suggested aids for superficial search include a hand mirror, an inspection mirror, a torch and screwdriver. The senior patrol officer should approve use of equipment having regard to safety requirements etc. in the particular search area.
- (2) Radio communications equipment should be adequate to service need during the whole patrol.
- (3) Appropriate forms/documents should be carried. (Refer 5/5/1).
- (4) For long range patrols include maps, area dossiers, survival gear, first aid kit, food and water (for full detail, see listing under Remote Area Operations - 6/6/7).
- (5) Check to make sure all equipment is in proper working order before the patrol is due to commence.

7/5/5 RESCUE/FIRST AID

- (1) Knowledge of location of the nearest medical facilities is essential.
- (2) For long range patrols it is preferable for at least one officer to have some knowledge of first aid.

BARRIER ENFORCEMENT

7/5/5 RESCUE/FIRST AID continued

- (3) Rescue arrangements need to be catered for in the planning stage.
- (4) In order to facilitate search and rescue response requirements in support of remote area land patrols procedures should be in place as to initiating emergency procedures should a scheduled radio call be missed. At Appendix 25 is a Communication Form that should be completed for all remote area land patrols and be annexed to the Patrol Operation Order.

SECTION 6: BEHAVIOUR CODE

7/6/1 ATTENTION TO DRESS

- (1) When in official uniform, officers are to maintain a neat and tidy appearance.
- (2) When on duty, officers should wear uniforms unless directed otherwise by supervisors.
- (3) Dress rules may be relaxed at the discretion of the senior officer during long range patrols.
- (4) Specialist clothing should be worn if supplied for specialist purposes.
- (5) When patrolling in a covert mode, care should be taken to ensure that identity is not inadvertently disclosed by careless use of uniform (or official) items.

7/6/2 ABILITY TO IDENTIFY YOURSELF

- (1) Customs identity cards are to be carried at all times (except if impractical in covert or other specialist operations).
- (2) Identity cards must be shown when officers in plain-clothes:
 - (a) approach persons for questioning or intention to search;
 - (b) approach other agencies for information on an official basis.

7/6/3 POLITENESS

- (1) As an officer of the Commonwealth dealing with the public, maintaining courtesy and politeness is important, no matter what the attitude of the other person. Use of courtesy titles is advisable. (Refer 2/3/3(d)).

7/6/4 FIRMNESS

- (1) In the course of normal duties officers should be firm but polite eg. in questioning suspects, crowd control, etc.
- (2) Avoid aggressiveness, especially when seeking co-operation or information.

7/6/5 ASSISTANCE

- (1) Offer assistance in the way of information whenever possible eg. ETA of a vessel, or aircraft, explanation of departmental procedures, etc.
- (2) Proper regard must be taken for the officer's personal safety when offering physical assistance to others.
- (3) Operational requirements are not to be compromised when offering assistance to others but otherwise, especially at sea or in long-range patrols, every assistance should be afforded to persons in difficulty.
- (4) The saving of human life takes precedence over all other matters.

SECTION 7: DESIRABLE QUALITIES FOR A PATROL OFFICER

7/7/1 It is important that officers engaged in patrol duties possess certain personal qualities; particularly when considering suitability for longrange patrols. Following are the qualities to be considered:

- (1) Patience, endurance, coolheadedness.
- (2) Alertness.
- (3) Resourcefulness - able to use initiative.
- (4) Disciplined, able to take and carry out instruction.
- (5) Observant of all events.
- (6) Able to report and record correctly and completely.
- (7) Able to converse with associated personnel encountered.
- (8) Self motivation.
- (9) Discretion.
- (10) Self-sufficiency in knowledge of the law and practice.

BARRIER ENFORCEMENT

DIVISION 8: SEARCH

SECTION 1: INTRODUCTION

8/1/1 LEGISLATIVE AUTHORITY (CUSTOMS ACT)

- (1) Section 31 - all goods on board any ship or aircraft from parts beyond the seas are subject to Customs control.
- (2) Section 32 - the right to examine all goods subject to Customs control.
- (3) Section 35 - goods imported by post are subject to Customs control equally with other imported goods.
- (4) Section 185 - may board and search any ship that has been brought to or any aircraft that has been landed for boarding following a request under Section 59.
- (5) Section 186 - may open packages, weigh, mark and seal goods subject to Customs control.
- (6) Section 187 - provides power to board, search and secure any goods on any ship, aircraft or Australian installation (eg. oil-rig).
- (7) Section 189 - power to search extends to any part of any ship, aircraft or installation, and authorises the opening of packages, lockers, etc. and the examination of all goods.
- (8) Section 190 - the power to secure extends to fastening down hatchways, locking up, sealing, marking and securing goods.
- (9) Section 191 - seals, marks, locks, etc., not to be broken, erased etc. except by authority.
- (10) Section 192 - seals, marks, locks etc not to be broken, erased, etc., between coastal ports or airports without authority.
- (11) Sections 197/197A - the power to stop and search vehicles carrying petrol products.
- (12) Section 200 - use of a Writ of assistance or Schedule IV warrant to search premises.
- (13) Section 214 - production of documents to Customs in case of seizure.
- (14) Section 219 - power to detain and search suspected persons.

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BARRIER ENFORCEMENT

8/1/2

s47E(d)

8/1/3

8/1/4

8/1/5

s47E(d)

8/1/6

SECTION

8/2/1

8/2/2

BARRIER ENFORCEMENT

8/2/3

s47E(d)

SECTION

8/3/1

8/3/2

s47E(d)



8/3/3

8/3/4

AUSTRALIAN CUSTOMS SERVICE MANUAL
(OFFICERS' EDITION)

VOLUME 6	
R. 1	Page 159

BARRIER ENFORCEMENT

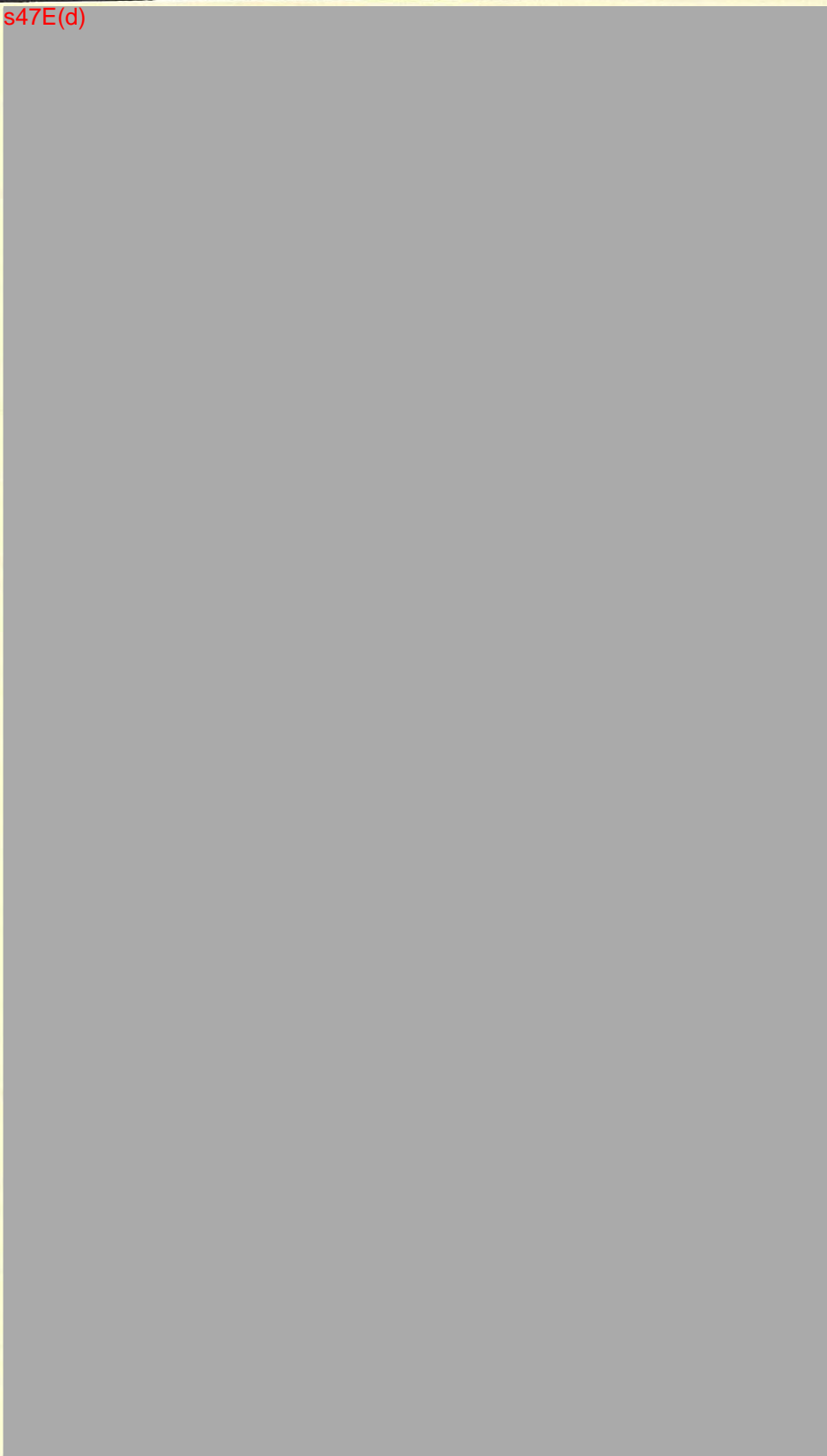
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8/3/5

8/3/6

s47E(d)



VOLUME 6	
R. 0	Page 161

BARRIER ENFORCEMENT

8/3/6

s47E(d)



8/3/7

SAFETY

- (1) When operating in areas where there is likely to be contact with foul air or toxic or noxious gases, Emergency Breathing Apparatus should be used.
- (2) Ventilate tanks, hatches and containers sufficiently prior to entry.
- (3) When entering enclosed areas make sure one officer remains standing by, near the entry.
- (4) Special care must be exercised when searching in and around machinery or electrical equipment; again a second officer must be present.
- (5) Avoid walking on slippery surfaces.
- (6) When entering any closed area make sure of reasonable exit capabilities.
- (7) Make sure equipment fits/suits the task.
- (8) Wear goggles and mask in dusty conditions.
- (9) Helmets should be worn when searching anywhere except passengers' baggage and persons. When officers are searching inside aircraft, Helmets should either be removed or special care taken not to knock their helmets against aircraft instrumentation as significant resultant damage could occur.
- (10) Clothing should be comfortable but not too loose (to prevent entanglement in moving machinery, etc).
- (11) Clothing should be official uniform or as directed by the Senior Officer.
- (12) Avoid "skylarking", running etc.
- (13) Avoid carrying things when climbing ladders.
- (14) Keep within hearing range of another officer.
- (15) Consult engineers etc. when there is a need to examine or dismantle machinery or certain fittings (especially in aircraft).
- (16) Lift heavy items using leg muscles - not the back muscles.

BARRIER ENFORCEMENT

8/3/7 SAFETY continued

(17) Protective equipment available includes:

- (a) dust goggles and mask
- (b) gloves
- (c) safety helmets
- (d) safety vests/jackets
- (e) protective clothing
- (f) refrigerator gear
- (g) special safety harness
- (h) ropes
- (i) emergency breathing apparatus
- (j) safety shoes/boots
- (k) first aid kits.

(18) When opening cargo containers be alert to the possibility of the contents spilling out and fumigation having been carried out using methyl bromide or similar noxious gases. Test prior to entry.

(19) When opening small containers of unknown substances, beware of inhaling vapours or applying chemical tests without expert advice.

8/3/8 COMPLETION OF SEARCH

- (1) Ensure that all officers are accounted for; check for injuries.
- (2) Ensure that all seizures accounted for.
- (3) All seizure notices and/or other documents must be completed and handed to the appropriate person.

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s47E(d)

SECTION

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SECTION 5: SEARCH OF PERSONS8/5/1 LEGISLATION

- (1) Part XII, Division 1B, Sections 219L to 219ZJ of the Customs Act.
- (2) The Customs (Detention and Search) Act 1990 inserted a new Division 1B into Part XII of the Customs Act 1901. This Division makes provision for the detention and search of suspects, and the conditions under which this may occur.
- (3) This legislation which replaces the previous detention and search provisions under s.196 of the Customs Act 1901 provides for three categories of detention and search:

Subdivision A : Detention and Frisk
Subdivision B : Detention and External Search
Subdivision C : Detention and Internal Search

Refer to Volume 4 for detailed procedural instructions on Search of Persons.

SECTION 6: VEHICLE SEARCH8/6/1 LEGISLATION (CUSTOMS/OTHER ACTS)

- (1) Section 32 - the right to examine goods subject to Customs control.
- (2) Section 197 - the right to stop and search vehicles for dutiable goods.

BARRIER ENFORCEMENT

8/6/1 VEHICLE SEARCH Continued

(3) Section 197A - the right to stop and search vehicles for petroleum products subject to Customs or Excise duties.

(4) Other Acts eg. Wildlife Protection (Regulation of Exports and Imports) Act 1982.

8/6/2 GENERAL STRUCTURE OF VEHICLES

Refer to the explanatory notes on vehicular construction and search at Appendix 20 and the checklist of Appendix 21.

8/6/3 s47E(d)

8/6/4

8/6/5

s47E(d)

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SAFETY

- (1) If the vehicle has been used recently ensure it is cooled down before searching the engine compartment, near the exhaust, etc.
- (2) Be conscious of volatile fuel fumes.
- (3) Exercise caution when searching near LPG tanks.
- (4) Wear protective clothing.

SECTION 7: AIRCRAFT SEARCH

8/7/1

OVERVIEW

The subject of aircraft search is generally complex however the following provisions are offered as a guide. Officers should refer to the publications listed below for specialists and technical information which can be used in conjunction with these references.

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LEGISLATION

- (1) Section 32 - the right to examine goods subject to customs control
- (2) Section 185 - the right to board and search aircraft landed for boarding following a request under S.59
- (3) Section 186 - the right to open packages, examine, weigh, mark and seal goods
- (4) Section 187 - the right to board, search and secure
- (5) Section 189 - search extends to any part of an aircraft

8/7/3

s47E(d)

BARRIER ENFORCEMENT

8/7/4

s47E(d)

8/7/5

8/7/6

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s47E(d)

SECTION 8: VESSEL SEARCH (INCLUDING SMALL CRAFT)

8/8/1 LEGISLATION (CUSTOMS/OTHER ACTS)

- (1) Section 32 - the right to examine goods subject to customs control.
- (2) Section 185 - the right to search any ship brought to for boarding following request under Section 59.
- (3) Section 186 - the right to open packages, weigh, mark and seal goods subject to Customs control.
- (4) Section 187 - the right to search any ship or Australian installation.
- (5) Section 188 - stay on board vessel.
- (6) Section 189 - the right to search extend to any part of the vessel.
- (7) Other Acts
 - (a) Wildlife Protection (Regulation of Export and Import Act) 1982
 - (b) Quarantine Act
 - (c) Migration Act
 - (d) Financial Transaction Reporting Act 1988.

BARRIER ENFORCEMENT

8/8/2

s47E(d)

8/8/3

8/8/3

s47E(d)

8/8/4

8/8/5

BARRIER ENFORCEMENT

8/8/5

s47E(d)



8/8/6

8/8/6

s47E(d)



8/8/7

BARRIER ENFORCEMENT

8/8/8

s47E(d)

8/8/9

8/8/10

8/8/11

SAFETY

See 8/3/7.

SECTION 9

s47E(d)

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LEGISLATION

- (1) Section 32 Customs Act 1901 - The right to examine goods subject to Customs control.

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s47E(d)

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SPECIALIST EQUIPMENT

Refer Division 9.

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SAFETY

- (1) Containers are **NOT** to be examined on board vessels due to a lack of security and safe working environment.
- (2) Container exterior to be checked for fumigation notices.
- (3) If the contents of a container have been fumigated with Methyl Bromide or other toxic gases, the container must be tested with an approved gas detector unit and aired and retested before entering.
- (4) Doors must be opened slowly to avoid contents spilling.

SECTION 10: PARCELS POST**8/10/1 LEGISLATION**

- (1) Section 32 - the right to search goods subject to Customs control.
- (2) Section 35 - goods imported by post are subject to Customs control equally with goods otherwise imported.

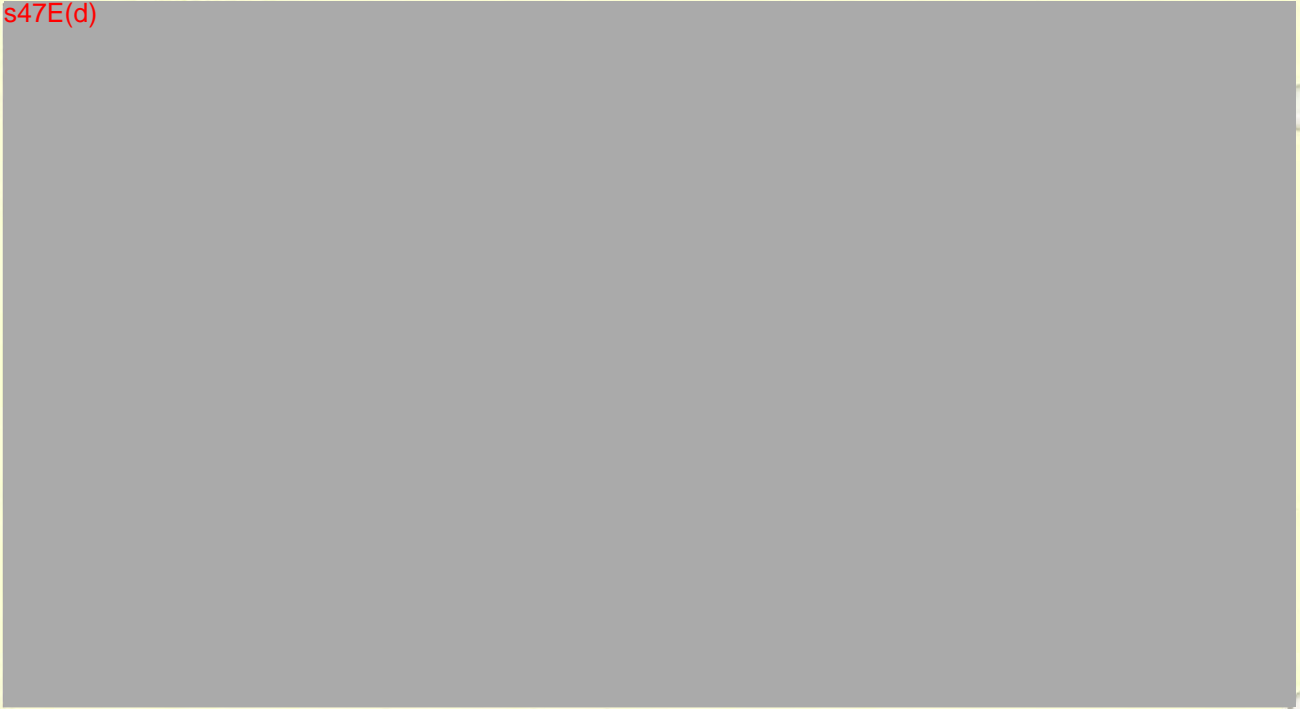
8/10/2 CATEGORIES OF MAIL

- (1) Ordinary Letter Class and Other Articles Mail. (Air, Sea and Sal)
- (2) Registered Letter Class and Other Articles Mail. (Air and Sea)
- (3) Vendor bags.
- (4) Parcels (Air, Sea and Sal).
- (5) International Express Post.

8/10/3 ADMINISTRATIVE PROCEDURES/RESTRICTIONS

- (1) See Volume 3.
- (2) Customs Officers are not to open any Australia Post mail for any purpose.
- (3) Mail that is selected for Customs examination may be opened by the addressee, his/her authorised agent or appropriate Australia Post Officer.

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s47E(d)

BARRIER ENFORCEMENT

APPENDIX 19: SEARCH OF CONTAINERS (Ref. Division. 8/9)

These instructions relate to the physical examination of containers. The examination of their contents is dealt with separately in cargo examination procedures.

Containerised movement of goods enhances security and reduces handling and risk to the goods themselves. They allow a high level of facilitation on an international scale, provided that seals remain intact until final port of destination. It should, however, be realised that the security provided by container seals can be circumvented with alarming ease. Customs officers need to be aware of the various types of containers and the construction methods used if they are to be successful examining officers.

Contraband can be and has been concealed within the container itself by utilizing available construction cavities, or by custom made cavities. False panelling (either walls or roofs) being the most notable to date.

Container search needs to be a systematic process of elimination by officers with a full understanding of container construction and the various modus operandi used by narcotic traffickers.

SAFETY CHECK:

- . Container exterior to be checked for fumigation notices.
- . Under no circumstances is an officer to place himself beneath a raised container.
- . All examinations to be performed in a controllable environment away from potential hazards (eg., wharf traffic).
- . Ensure correct clothing and equipment is used.

INITIAL CHECK:

- . Compare marks and numbers with against documentation.
- . Compare seal number(s) against documentation and ensure that seal is intact.

EXTERIOR:

- . Working systematically from front to rear, examine container for signs of repair work or other modifications and note details.
- . Ensure that sealing points are fixed and can not be, or have not been removed or altered.
- . Check compliance plate for signs of removal.
- . Use an engineer's mirror to examine the underside of a raised container.
- . Measure outer dimensions and note details.

APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Division. 8/9)

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BARRIER ENFORCEMENT

APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Division. 8/9)

TYPES OF CONTAINERS:

Officers should be aware that there are four (4) main types of containers. These are:

- . Conventional
- . Refrigerated
- . Open Top, and
- . Flat Rack.

Conventional containers are simple enclosed containers consisting of wooden flooring and single skin panelling.

Refrigerated containers are enclosed containers with steel ribbed flooring and insulated panelling. They also have a three phase refrigeration unit attached to the rear of the container. These containers are also called Reefers.

Open Top containers are similar to conventional types except that they have a canvas sheet as roofing. They allow containerisation of cargo that is too tall for conventional containers.

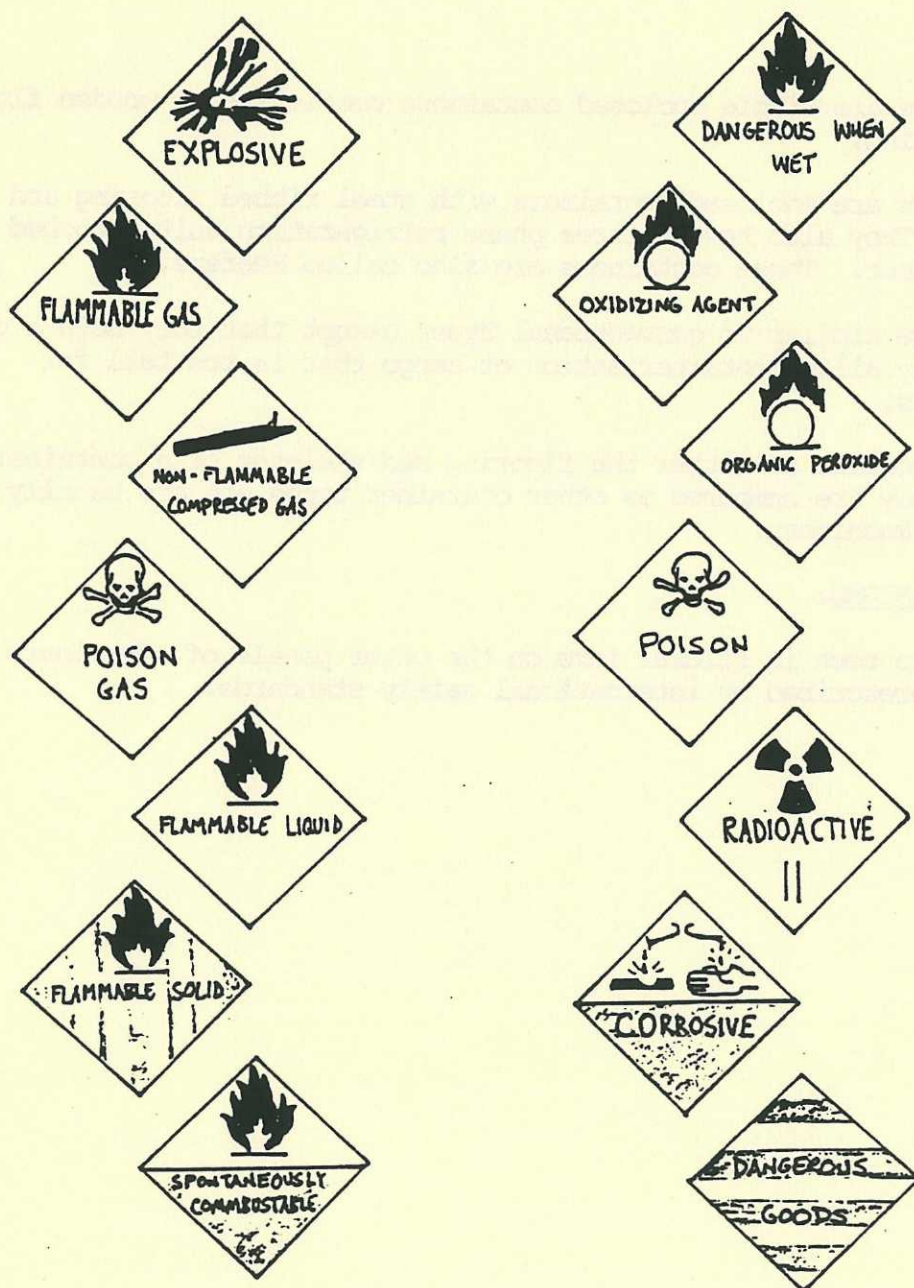
Flat Rack containers consist of either the flooring and skeleton of a container, or just the flooring. They are numbered as other container types and are usually employed for shipping machinery.

INTERNATIONAL WARNING SIGNS:

The following signs are seen in sticker form on the outer panels of containers and are to be treated as prescribed by international safety standards.

APPENDIX 19 SEARCH OF CONTAINERS continued
(Ref. Division 8/9)

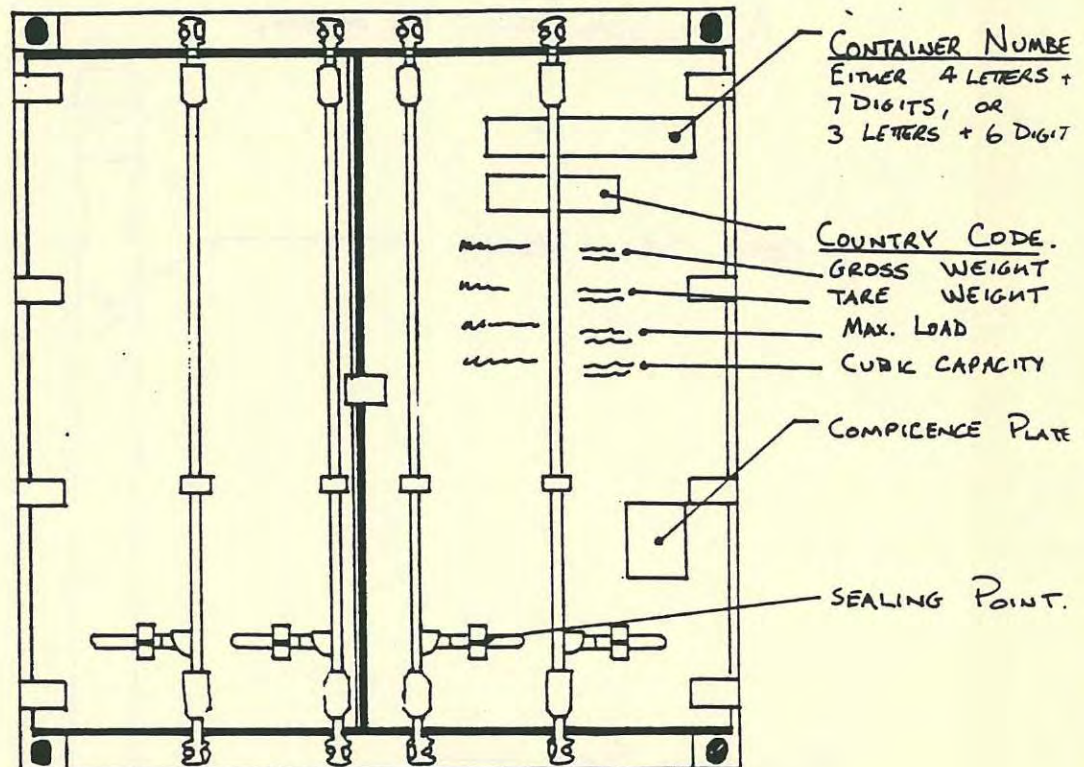
INTERNATIONAL WARNING SIGNS.



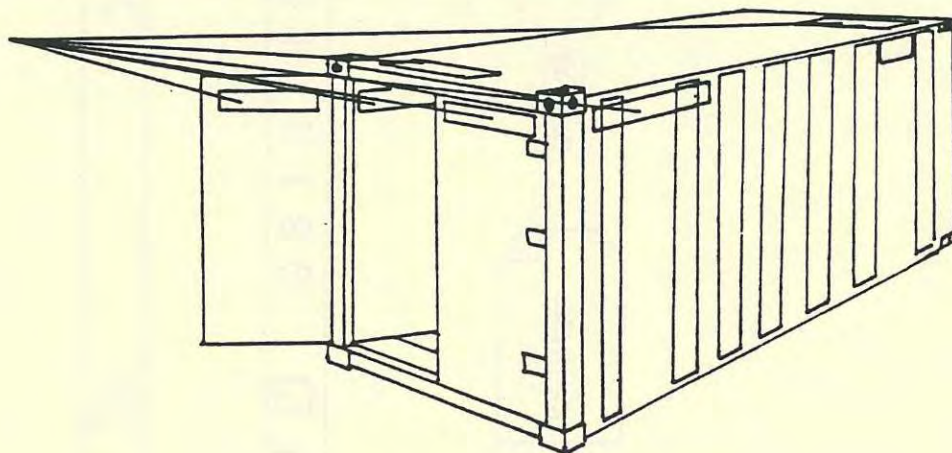
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APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Div. 8/9)

STANDARD 20' or 40' DRY CONTAINER.

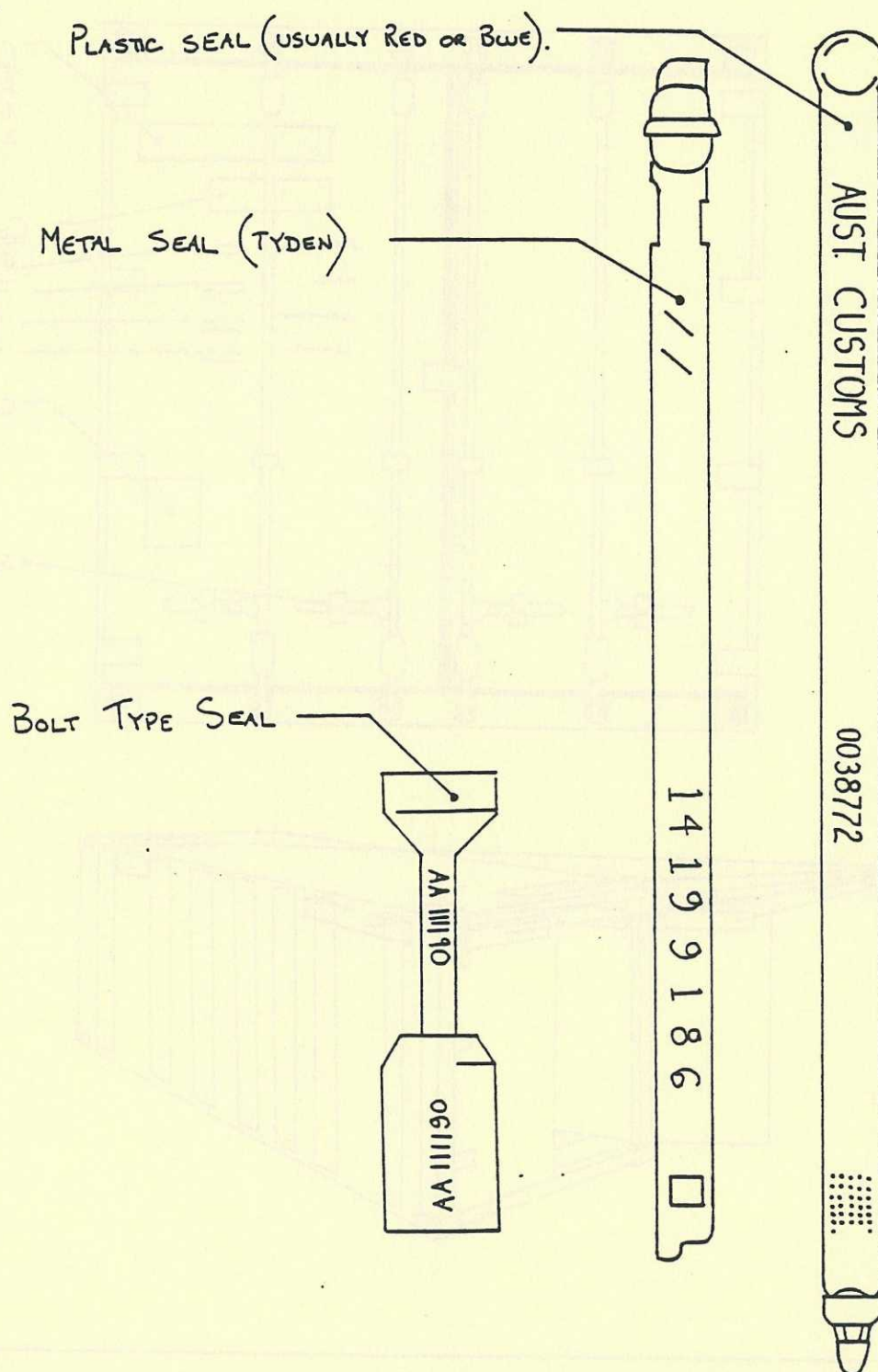


CONTAINER
NUMBER



APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Div. 8/9)

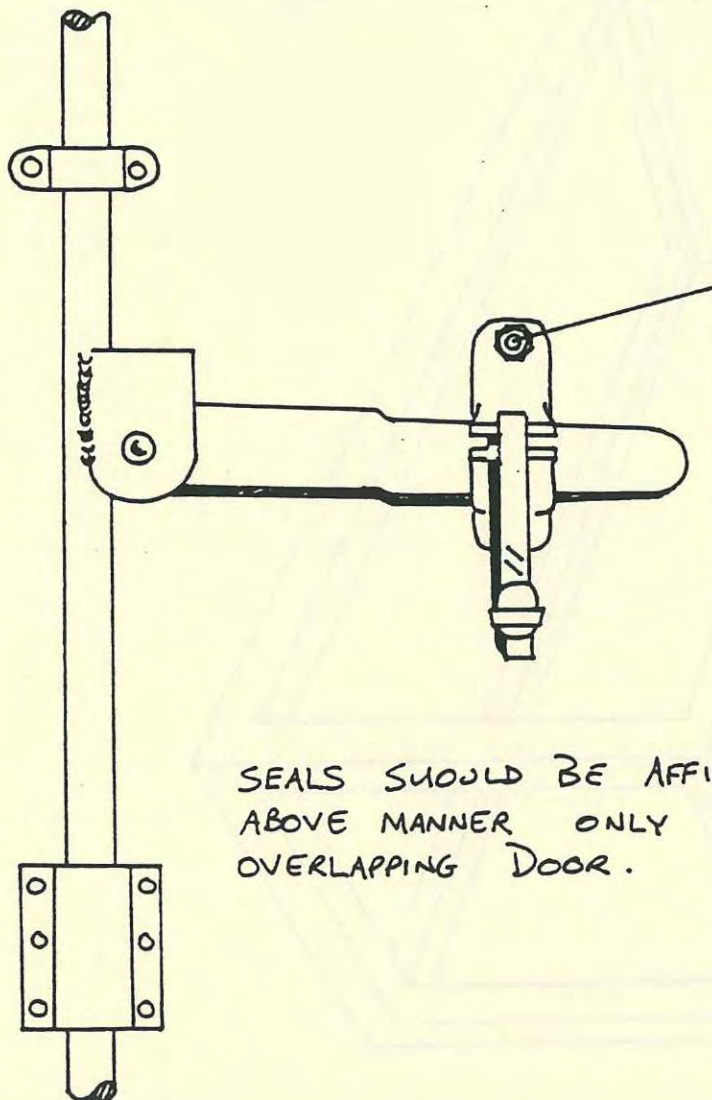
CONTAINER SEALS (FIG. A)



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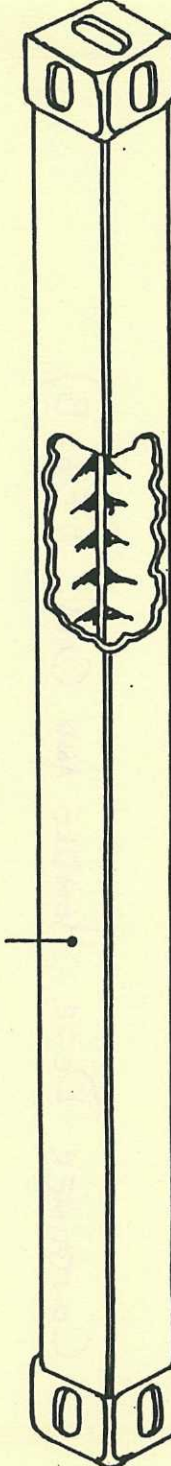
APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Div. 8/9)

CONTAINER DOOR HANDLE AND CAM. (FIG. B)

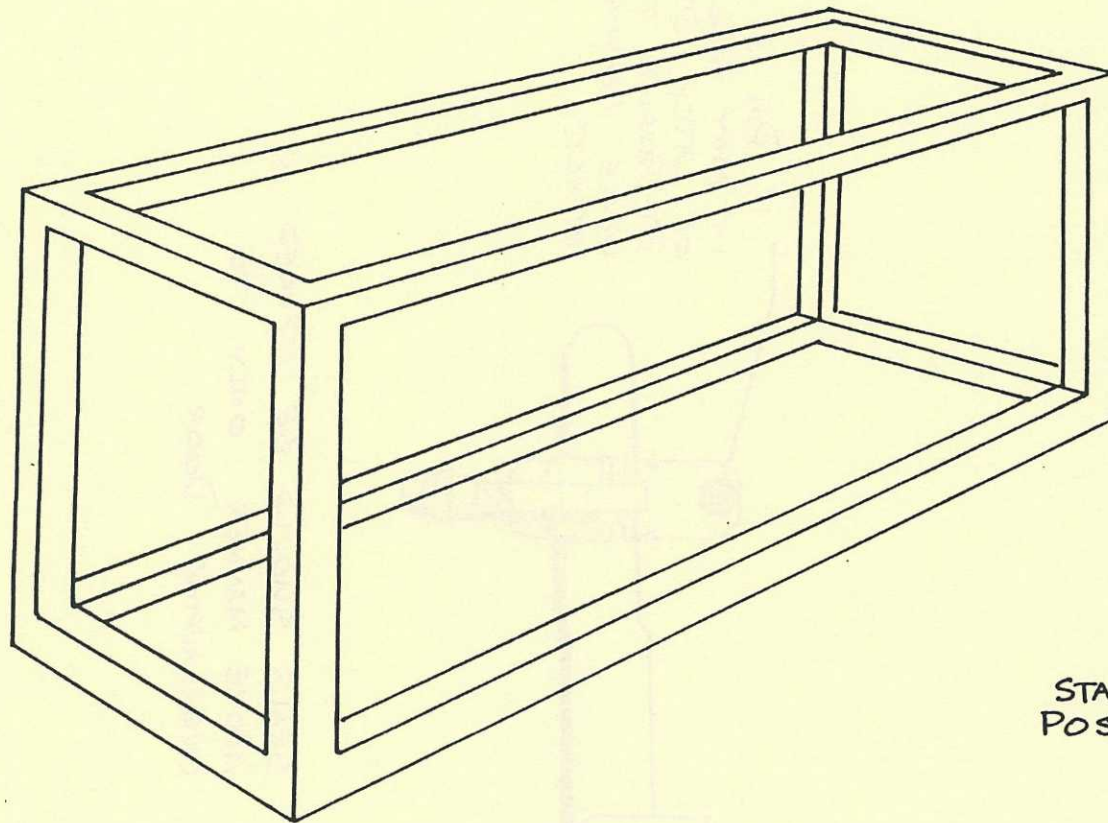


SEALS SHOULD BE AFFIXED IN
ABOVE MANNER ONLY TO
OVERLAPPING DOOR.

APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Div. 8/9)



STANDARD UPRIGHT
POST.

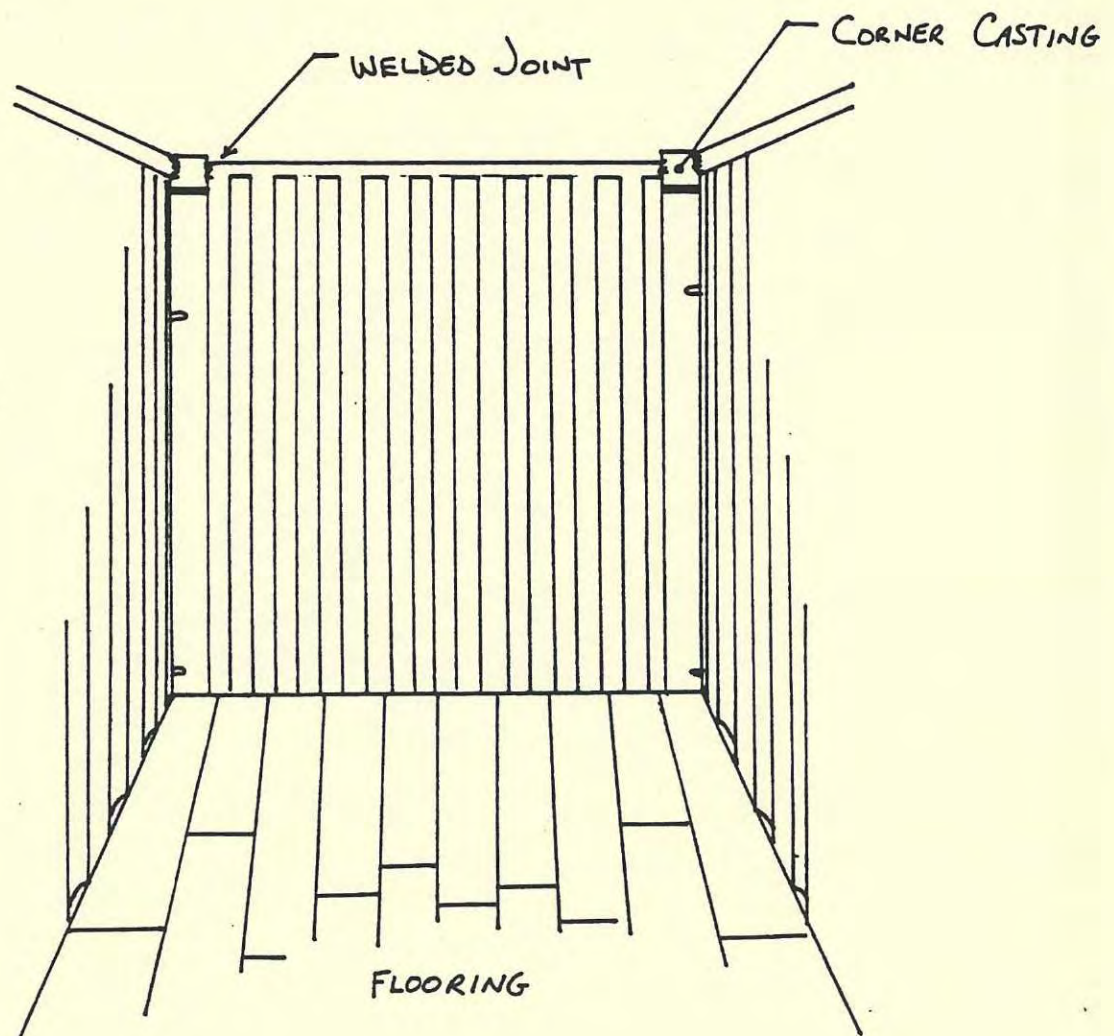


BASIC CONTIANER FRAME (FIG. C)

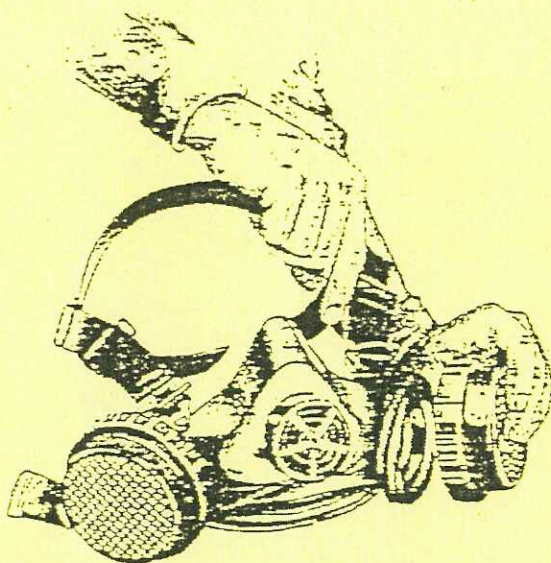
BARRIER ENFORCEMENT

APPENDIX 19: SEARCH OF CONTAINERS continued
(Ref. Div. 8/9)

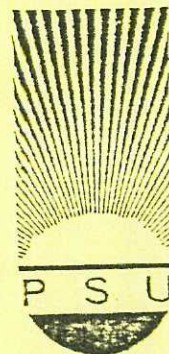
INSIDE VIEW OF REAR WALL (FIG. D)



**GUIDELINES ...
POTENTIAL FOR EXPOSURE
to the
FUMIGANT METHYL BROMIDE**



Australian
Customs
Service



CORPORATE SERVICES



MAY 1992

GUIDELINES FOR ACS PERSONNEL
WHERE THERE IS POTENTIAL FOR EXPOSURE TO
FUMIGANT METHYL BROMIDE

INTRODUCTION

1. Methyl Bromide is a colourless, non-inflammable gas with no taste or odour at low concentrations. At levels well above the standard a sweetish odour may be present. Methyl Bromide is currently used as a fumigant in pest control (Annex A).

2. As a fumigant, methyl bromide often contains chloropicrin (approximately 2%) which acts as a warning agent of high fumigant levels by irritating eyes, nose and throat. However this does not excuse the need for more careful measurement of methyl bromide levels, because the proportion of the two substances in the environment may vary with fumigation conditions due to their differing properties.

3. The publication Worksafe Australia "Asbestos: Code of Practice and Guidance Notes" provides the following guidance:

".... it is recommended that all workers in all potentially hazardous trades should receive health surveillance through the workplace. Apart from the advantages of general health promotion and protection, such surveillance affords opportunity for assurance as to understanding of specific preventative measures"

4. The fumigant methyl bromide is a highly toxic substance and many cases of poisoning, some fatal, have occurred. Methyl bromide gas can pool in the back of a container or even in tightly packed or sealed cartons. If a container is new and well sealed the methyl bromide will not dissipate during transport. Chloropicrin dissipates first and if the fumigation process has been poorly performed methyl bromide pools in the bottom of a container. Chloropicrin therefore, is not always a useful indicator of the presence of methyl bromide.

EFFECTS OF EXPOSURE

5. Injury may result from inhalation, by the contamination of clothing leading to absorption, and contact with the eyes or skin. Inhalation may affect the respiratory and central nervous systems. Symptoms of each may be delayed by up to 48 hours.

5.1 **SHORT-TERM EXPOSURE:** Methyl Bromide may cause headache, dizziness, nausea, vomiting, blurred vision, slurred speech and convulsions. Skin blistering may occur following acute exposure. High concentrations may also cause lung irritation resulting in congestion and coughing, chest pain and shortness of breath. Lung effects may be delayed in onset. Exposure may also result in kidney damage. If the exposure is less severe, an itching skin rash may appear after several days. High concentrations can in some instances cause unconsciousness and death.

5.2 **LONG-TERM EXPOSURE:** Prolonged or repeated exposure to methyl bromide may cause a variety of symptoms and signs mostly due to injury to the central nervous system. These include visual disturbances, slurred speech, numbness of the arms and legs, confusion, shaking and unconsciousness.

6. The US National Institute for OH&S suggests that methyl bromide should be regarded as a potential carcinogen (cancer causing) and great care should be taken pending further research.

EXPOSURE LIMITS

7. There is no safe exposure limit.

FIRST AID

8. Each CET is to include an officer qualified in first aid. In the case of ships and crews search teams, two officers qualified in first aid.

8.1 **GENERAL FIRST AID MEASURES** There is no known specific antidote for methyl bromide poisoning. The following steps should be taken immediately in all cases of exposure:

8.1.1 the victim should be removed from further exposure into fresh air, taking care not to be the next victim yourself;

8.1.2 loosen tight clothing;

8.1.3 if unconscious and breathing, move the victim onto his/her side with jaw/neck extended; if conscious place the victim on his/her side, with the head lower than the rest of the body and turned to one side;

8.1.4 if the victim has breathing difficulty, a tight chest, coughing or signs of intoxication, seek medical aid urgently; and

8.1.5 monitor breathing continuously.

If the fumigant has come into contact with the skin, the effects can be lessened by:

8.1.6 flushing contaminated area with lukewarm, gently running water for at least 20 minutes by the clock;

8.1.7 under running water, remove contaminated clothing, shoes and leather goods e.g. watchbands, belts;

8.1.8 if irritation persists, repeat flushing;

8.1.9 completely decontaminating clothing before re-use and do not re-use contaminated footwear or leather goods; . drying and wrapping the victim in a blanket(s);

8.1.10 observing the victim for any symptoms and signs of exposure;

8.1.11 if observed and if at all in doubt, seek medical aid; and

8.1.12 ensure that removed clothes are laundered separately from uncontaminated clothing.

Where there is contact with the eye(s):

8.1.13 thoroughly irrigate the eye(s) by holding the eyelids open and washing the eye(s) with clean lukewarm gently flowing water for 20 minutes by the clock. Take care not to rinse contaminated water into the non-affected eye. If irritation persists, repeat flushing;

8.1.14 contact lenses should be removed if worn; and

8.1.15 obtain medical attention immediately.

If the fumigant has been inhaled/ingested:

8.1.16 and the victim remains exposed, he/she should be removed by a team member wearing personal protective clothing and equipment and placed in the open air or a room where all the doors and windows are open;

8.1.17 seek medical aid urgently;

- 8.1.18 restrictive clothing worn by the victim should be loosened;
- 8.1.19 never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing;
- 8.1.20 have victim rinse mouth thoroughly with water;
- 8.1.21 DO NOT INDUCE VOMITING;
- 8.1.22 if vomiting occurs naturally, rinse mouth and repeat administration of water;
- 8.1.23 monitor breathing continuously and, if breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately (avoid mouth to mouth contact);
- 8.1.24 provide general supportive measures (comfort, warmth, rest);
- 8.1.25 the victim should be wrapped in a blanket(s) to offset chilling but not to the point of overheating;
- 8.1.26 the victim should be kept quiet with his/her neck extended to free the respiratory tract; and . apply restraint at any onset of convulsions.

MEDICAL SURVEILLANCE

9. Those officers of Barrier Control in CET and Cargo Control as well as Cargo Examiners of the Imports/Exports Sub Program whose employment could potentially expose them to the effects of methyl bromide are to: (Annex B)

- 9.1 undergo an initial standard medical examination to establish a baseline for the monitoring of their health; before commencing employment and thereafter;
- 9.2 have annual medical/pathological examinations; and
- 9.3 undergo more frequent examinations for biological monitoring if requested by the officer or management, if the need arises or following an exposure or suspected exposure. In the event of an acute exposure (or suspected acute exposure) a blood test for bromide ion should be performed as soon as possible and

certainly within 5 days of the exposure.

10. Biological monitoring will enable individual risk assessments and can be useful in establishing the degree of skin absorption. In some cases it can identify unknown or unexpected exposures which cannot be predicted from atmospheric monitoring alone.

PERSONAL PROTECTION

11. Each officer of the team involved in the ventilation and initial entry and subsequent entries prior to clearance of the fumigant must wear a respirator where detectors indicate unexpectedly high methyl bromide levels. No individual(s) should enter contaminated atmospheres, even in emergency circumstances, unless wearing breathing apparatus (see RESPIRATORS), cotton drill overalls buttoned at wrist and throat, and gloves which are impervious to methyl bromide and comply with Australian Standard (AS) 2161 (Industrial gloves and). Care must be taken to cover the tops of the gloves with the cuffs of the overalls. It should be noted that rubber and leather items of clothing will absorb methyl bromide leading to skin contamination.

CLOTHING

12. Officers involved in container examinations are to have access to cotton drill long-sleeved overalls which will form part of the CET personal protective clothing and equipment pool for exclusive use by individuals involved in ventilation procedures.

13. On completion of the ventilation process these pool overalls must be discarded and placed in sealed bags, clearly marked, for commercial (specialist) laundering. Officers will be issued lightweight overalls for normal tasking and under no circumstances are officers to forego showers immediately following an operation or to continue to wear potentially contaminated overalls in or away from the workplace. Where on-site shower facilities are not available, officers are to be provided time and transport to return to the nearest facility available to the CET. Before entering the vehicle wearing potentially contaminated overalls, seats are to be covered with plastic sheeting.

FOOTWEAR

14. Australian Standard 2210-1980 "Safety Footwear" sets out general requirements for all types of safety footwear and specific requirements for heavy duty (Type 1), medium duty (Type 2), light dutywomen's (Type 3) and waterproof (Type 4). PVC lace-up safety footwear

incorporating safety toe-cap and conforming to AS2210 is impervious to chemicals and is to be worn by officers involved in the testing procedures.

15. It is considered that the clearing of the fumigant is potentially more hazardous than the original application and those officers not involved in the ventilation process are to be excluded from the risk area in the vicinity of the container and exhausting gas.

RESPIRATORS

16. The respirator must as a minimum be the full facepiece canister type, and be provided with instructions as to use and maintenance. The respirator should comply with AS 1716 (Respiratory Protective Devices), and be fitted with a type 5 canister which is specific for methyl bromide.

17. Each time a respirator of this type is worn, the facial fit should be tested by closing the inlet to the canister with the palm of the hand and inhaling deeply. The vacuum so created should cause the facepiece to adhere to the face for at least 15 seconds. In addition, the valves should be checked, as should the canister so that it can be replaced before either its shelf life has expired, or it has lost its capacity to absorb the fumigant. On each occasion of use the facepiece should be thoroughly wiped clean with fresh water and disinfectant.

18. The expiry life of a canister may be calculated from the date of manufacture and shelf life, however canisters should be discarded after one hour's use in an exposure situation or two hours where exposure is minimal. A label stuck to the canister should assist accurate recording. In any case canisters should not be used beyond six months from initial opening.

VENTILATION PROCEDURES

19. All containers are to be assumed to contain fumigants and NO OFFICER, OTHER THAN THE OFFICER-IN-CHARGE, IS TO OPEN, ENTER OR EXAMINE CARGO UNTIL THE TESTING PROCEDURE HAS BEEN COMPLETED AND THE CONTAINER DECLARED CLEAR OF FUMIGANT.

20. Where assistance is required by the Officer-in-Charge during this procedure, that assistant(s) must also be wearing personal protective clothing/equipment. Detector equipment is to be the responsibility of the Regional Manager to arrange for the calibration of equipment with the appropriate manufacturer or technical experts.

21. Officers are to be nominated by Regional Managers Barrier Control from volunteers (Annex E) and undertake in-house training by external authorities or consultancies

prior to assuming these responsibilities. Such responsibilities in respect to personal protective clothing and equipment is to include the monitoring of expiry life for respirator canisters.

22. Portable exhaust fans (flexible fume extractor systems) are to be the standard method for extracting methyl bromide from within containers. Equipment such as this can extract up to 1900 cubic metres of fumigant per hour whereas a 13 metre container holds 66.8 cubic metres, a 7 metre container some 30.6 cubic metres. Such lightweight portable equipments are compatible with generator sources.

23. On testing positive, a container can only be attended by the officer-in-charge in protective clothing and equipment, the remaining officers vacating the area for a minimum of 1 hour during which time the officer-in-charge will undertake the ventilation procedure.

24. On opening a container, the officer-in-charge will place the ventilation hose as far as possible within the container before withdrawing. Following subsequent testing, the officer-in-charge may re-arrange cargo and re-position the equipment. Where assisted by another officer, that individual(s) must be dressed in protective clothing and equipment.

25. Officers may not approach or enter a container which has previously tested positive until the officer-in-charge has declared it free of fumigant. The officer-in-charge must continue to test at two (2) hourly intervals whilst the team is within or in the vicinity of the container. Should a further positive recording occur, the container and area is to be evacuated and the ventilation procedure repeated.

RECORDS

26. A personnel record is to be maintained for each CET operation in the format shown at Annex C. Completed by the officer-in-charge, the record for each operation will be held by the appropriate supervisor and made available to the Regional OH&S Co-ordinator on request and/or during audit activities.

AWARENESS

27. Before each operation, officers-in-charge are to ensure that personnel understand the procedures to be followed in the testing and ventilation of containers.

28. The OH&S (Commonwealth Employment) Bill 1991 imposes a general duty of care to protect the health and safety of Commonwealth employees at work in respect of employers,

persons in control of workplaces and employees to themselves and others in the workplace.

29. This policy - Potential for Exposure to Fumigant Methyl Bromide will be subject to (annual) review by the National OH&S Sub Committee in November 1992.

MAY 1992



Material Safety Data Sheet

Annex A to
Guidelines - Potential
for Exposure to
Fumigant Methyl Bromide

Chemical

Methyl Bromide

Description

Colourless, transparent volatile liquid or gas with a chloroform-like odour at high concentrations

Usage

Fumigant

HEALTH AND SAFETY DATA

Area affected	Effect	Precautions	First Aid
Eyes	Irritation and tearing, blurred or double vision, temporary blindness and retinal bleeding.	chemical safety goggles or a full face shield	Immediately flush with lukewarm water for 20 minutes holding the eye lids open. If irritation persists, continue flushing.
Skin	Severe irritation, blistering or burning. Injury may result from gas being trapped in gloves, boots or clothing.	Impervious gloves, coveralls, boots and other resistant clothing. Have a safety shower/eye-wash fountain readily available to the immediate work area. In high concentrations completely protective suits must be worn.	Immediately flush affected area with lukewarm flowing water for 20 minutes. If irritation persists continue flushing. Remove contaminated clothing under running water; this includes any leather good such as boots, belt watchband etc. Under no circumstances are contaminated leather goods to be re-used.
Inhalation	Initially causes headache, dizziness, abdominal pain, nausea, vomiting, chest pain, difficulty in breathing, blurred vision or double vision, muscular pain, and numbness. However these symptoms may be delayed by up to 48 hours. Severe exposures may result in tremors, convulsions, unconsciousness, permanent brain damage, damage to lungs, liver and kidneys. Death results from 12 minutes of continuous exposure.	At any detectable levels breathing apparatus must be worn.	If breathing has stopped conduct artificial respiration and if no pulse is evident cardiopulmonary resuscitation. Obtain medical assistance as soon as possible.

Long-term Exposure

Kidney, liver and brain damage may result from prolonged or repeated exposure

SUPPLEMENTARY INFORMATION**Flashpoint**

none.

Flammability Limit

Lower

10%

Upper

16%

Fire Fighting

extremely hazardous - fully contained breathing apparatus must be worn

Fire Extinguisher

water spray, foam carbon dioxide or dry chemical

ANNEX B Guidelines-Potential for Exposure
to Fumigant Methyl Bromide - May 92

..... (TESTING AUTHORITY)

.....
.....

.....
an officer of the Australian Customs Service has been referred to you for an initial medical examination as part of a program for the biological and health monitoring of officers undertaking contraband (shipping container) examination duties. Duties which have the potential to expose the officer to the effects of the fumigant methyl bromide.

For the purposes of monitoring, the following initial testing would be required:

- . BLOOD BROMIDE ESTIMATION (AT FIRST MEDICAL TO ESTABLISH INDIVIDUAL BASELINE)
- . LIVER AND RENAL FUNCTION TESTS
- . DYNAMIC RESPIRATORY FUNCTION TESTING
- . GENERAL PHYSICAL EXAMINATION INCLUDING URINE ANALYSIS (WITH PARTICULAR EMPHASIS ON EXAMINATION OF THE CENTRAL NERVOUS SYSTEM).

Subsequent medical examinations would not include blood bromide estimation unless a recent exposure was suspected.

The results of the medical examination should be discussed with the officer during the appointment and the results of the pathology tests forwarded confidentially to an address of their choice.

Account(s) should be forwarded to the:

Australian Customs Service
.....
.....
Attention: Regional Manager
CORPORATE SERVICES

.....
Regional Manager
..... (Sub Program)
AUSTRALIAN CUSTOMS SERVICE

Date: / /19

063

ANNEX C Policy - Potential for Exposure
to Fumigant Methyl Bromide - MAY 92

AUSTRALIAN CUSTOMS SERVICE
OPERATION INVOLVING THE FUMIGANT METHYL BROMIDE
PERSONNEL RECORD

REGION: IDENTITY OF CET

OFFICER-IN-CHARGE: (PRINT)

OFFICERS:
.....
.....
.....

LOCATION OF OPERATION:

NO. OF FUMIGATED CONTAINERS: MARKED
UNMARKED

TIME/DATE OPERATION COMMENCED
COMPLETED

TEST (KITIGAWA) RESULTS:

TIME: READING:

TIME: READING:

TIME: READING:

TIME: READING:

.....
OFFICER-IN-CHARGE: (PRINTED NAME)

.....
OFFICER-IN-CHARGE: (SIGNATURE)

Date: / /19

ANNEX D Guidelines - Potential for Exposure
to Fumigant Methyl Bromide - May 92

ACCREDITED
BIOLOGICAL AND HEALTH MONITORING
FOR ACS PERSONNEL
WHERE THERE IS THE POTENTIAL FOR EXPOSURE TO
FUMIGANT METHYL BROMIDE

REGION:	TESTING AUTHORITY(S):
QUEENSLAND	AUSTRALIAN GOVERNMENT HEALTH SERVICES LEVEL 7 340 ADELAIDE STREET BRISBANE QLD 4000 TEL: 07 360 2521 FAX: 07 360 2541
NEW SOUTH WALES	AUSTRALIAN GOVERNMENT HEALTH SERVICES LEVEL 2 120 SUSSEX STREET SYDNEY NSW 2000 TEL: 02 225 8993 FAX: 02 225 8804 DR P ARNOLD 6 UNION STREET NEWCASTLE NSW 2300 TEL: 049 295 933 FAX: DR A KOWAL 526 HUNTER STREET NEWCASTLE WEST NSW 2302 TEL: 049 26 4033 FAX: 049 29 6626 DR P MURRAY FITZWILLIAM STREET PORT KEMBLA NSW 2505 TEL: 042 74 0303 FAX: 042 76 3545 DR R PARISH 43 KING STREET WARRAWONG NSW 2502

TEL: 042 75 1800
FAX: 042 75 1802

AUSTRALIAN CAPITAL
TERRITORY

AUSTRALIAN GOVERNMENT HEALTH SERVICES
ACT COMMUNITY & HEALTH BUILDING
CNR MOORE & ALINGA STREETS
CANBERRA CITY ACT 2601

TEL: 06 274 5280
FAX: 06 257 7726

VICTORIA

AUSTRALIAN GOVERNMENT HEALTH SERVICES
399 LONSDALE STREET
MELBOURNE VIC 3000

TEL: 03 604 4036
FAX: 03 604 4039

TASMANIA

AUSTRALIAN GOVERNMENT HEALTH SERVICES
2ND FLOOR
MONTPELIER BUILDING
CNR KIRKSWAY PLACE & GLADSTONE STREET
BATTERY POINT TAS 7004

TEL: 002 21 1494
FAX: 002 21 1496

HOBART PATHOLOGY
63 SALAMANCA PLACE
HOBART TAS 7000

TEL: 002 23 1955
FAX: 002 24 1509

NORTHWEST GENERAL HOSPITAL
EDWARDS STREET
BURNIE TAS 7320

TEL: 004 30 6666
FAX: 004 31 8868

COMMONWEALTH MEDICAL OFFICER
49 CATTLEY STREET
BURNIE TAS 7320

TEL: 004 31 6533
FAX: 004 34 1556

LAUNCESTON GENERAL HOSPITAL
CHARLES STREET
LAUNCESTON TAS 7250

TEL: 003 32 7111
FAX: 003 32 7018

COMMONWEALTH MEDICAL OFFICER
44-50 CAMERON STREET
LAUNCESTON TAS 7250

TEL: 003 34 3888
FAX: 003 34 3884

SOUTH AUSTRALIA

AUSTRALIAN GOVERNMENT HEALTH SERVICES
2ND FLOOR
COMMONWEALTH CENTRE
55 CURRIE STREET
ADELAIDE SA 5000

TEL: 08 237 6070
FAX: 08 237 6055

INSTITUTE OF MEDICAL VETERINARY
SCIENCE
FROME ROAD
ADELAIDE SA 5000

TEL: 08 228 7911
FAX: 08 228 7538

WESTERN AUSTRALIA

AUSTRALIAN GOVERNMENT HEALTH SERVICES
8TH FLOOR
CAPITA BUILDING
5 MILL STREET
PERTH WA 6000

TEL: 09 324 6401
FAX: 09 324 6400

NORTHERN TERRITORY

AUSTRALIAN GOVERNMENT HEALTH SERVICES
1ST FLOOR
MLC BUILDING
SMITH STREET
DARWIN NT 0801

TEL: 089 46 3490
FAX: 089 81 7492

.....

ANNEX E Guidelines - Potential for Exposure
to Fumigant Methyl Bromide - May 92

OFFICERS HAVING RESPONSIBILITIES
IN RESPECT TO THE MAINTENANCE OF
OH&S PROTECTIVE CLOTHING/EQUIPMENT

REGION POSITION NO. CLASSIFICATION COMPONENT

NEW SOUTH WALES

20246	COB 3	ENFORCEMENT
20255	COB 2	ENFORCEMENT
20252	COB 2	ENFORCEMENT
20306	COB 2	ENFORCEMENT
20033	COB 2	SHIPPING CONTROL
20034	COB 2	SHIPPING CONTROL
20037	COB 2	ENFORCEMENT
22268	COB 2	ENFORCEMENT
22269	COB 2	ENFORCEMENT
22497	COB 2	SHIPPING CONTROL
22498	COB 2	SHIPPING CONTROL
22499	COB 2	SHIPPING CONTROL
22500	COB 2	SHIPPING CONTROL

VICTORIA

30227	COB 3	TECHNICAL SERVICES
30228	COB 2	TECHNICAL SERVICES

QUEENSLAND

40030	COB 3	ENFORCEMENT
40129	COB 2	ENFORCEMENT

WESTERN AUSTRALIA

60173	COB 2	ENFORCEMENT
60036	COB 2	ENFORCEMENT
60387	COB 2	ENFORCEMENT
60744	COB 2	ENFORCEMENT
60146	COB 1	ENFORCEMENT

SOUTH AUSTRALIA

50063	COB 3	ENFORCEMENT
50112	COB 2	ENFORCEMENT

TASMANIA

70041	COB 2	BURNIE
70025	COB 2	LAUNCESTON

GUIDELINES POTENTIAL FOR EXPOSURE TO FUMIGANTS IN THE ACS WORKPLACE



JUNE 1995



The GUIDELINES
**POTENTIAL FOR EXPOSURE TO FUMIGANTS
IN THE ACS WORKPLACE**

have been professionally endorsed
by the

ST JOHN AMBULANCE AUSTRALIA

with respect to those elements
addressing FIRST AID

and

AUSTRALIAN GOVERNMENT HEALTH SERVICES

with respect to those elements
addressing MEDICAL SURVEILLANCE

.....

JOINT ACS/CPSU OH&S WORKING PARTY
--

P Connelly
COMMERCIAL SERVICES
South Australia

Tel: 08 47 9211
Fax: 08 47 9428

R Ferdinands
CPSU Representative
COMMERCIAL SERVICES
Victoria

Tel: 03 244 8523
Fax: 03 244 8450

R Simms
STAFFING & BUDGETS
Central Office

Tel: 06 275 6692
Fax: 06 275 6698

.....

CONTENTS

PARA .	POLICY STATEMENT	PAGE
	PREAMBLE	
	JOINT ACS/PSU WORKING PARTY	
1	INTRODUCTION	10
6	EXPOSURE LIMITS	11
8	FIRST AID	11
12	MEDICAL SURVEILLANCE	15
17	PERSONAL PROTECTION	16
20	CLOTHING	17
25	FOOTWEAR	17
27	RESPIRATORS	18
32	TESTING & VENTILATION PROCEDURES	18
40	MAINTENANCE - KITAGAWA ASPIRATOR PUMP	19
44	TRAINING	20
48	RECORDS	20
49	REVIEW	21

- ANNEX A INFORMATION SHEET -
FUMIGANT HYDROGEN CYANIDE
- ANNEX B INFORMATION SHEET -
FUMIGANT ALUMINIUM PHOSPHIDE
- ANNEX C INFORMATION SHEET -
FUMIGANT SULFURYL FLUORIDE
- ANNEX D INFORMATION SHEET -
FUMIGANT METHYL BROMIDE
- ANNEX E INFORMATION SHEET
FORMALDEHYDE
- ANNEX F INFORMATION SHEET
FUMIGANT ETHYLENE DIBROMIDE
- ANNEX G INFORMATION SHEET
FUMIGANT ETHYLENE OXIDE
- ANNEX H FORMAT - TESTING AUTHORITY
- ANNEX I FORMAT - PERSONNEL RECORD

**Did you know that this training package
is available from your
Equipment Officer?**

**GUIDELINES
POTENTIAL FOR EXPOSURE TO FUMIGANTS
IN THE ACS WORKPLACE**

TRAINING PACKAGE

**CARE AND USE OF
PERSONAL PROTECTIVE CLOTHING
EQUIPMENT
EMPLOYED IN
TEST/VENTILATION PROCEDURES**

CARGO EXAMINATION

JUNE 1995

POLICY STATEMENT

The Australian Customs Service (ACS) and its employees are bound by the Occupational Health and Safety (OH&S) (Commonwealth Employment) Act 1991 (the Act) and by other State and Territory OH&S legislation as applicable.

ACS responsibilities are further defined by Codes of Practice approved and gazetted by COMCARE Australia under the Act.

Under the terms of the Act, the ACS has reached agreement with the Community and Public Sector Union (CPSU) on a joint approach to OH&S and has formalised this in a document originally signed in May 1992 and subsequently reviewed in 1994.

In order to simplify complex legislation and Codes of Practice and translate them into manageable administrative directions, joint working parties made up of ACS and PSU representatives as defined in the agreement develop specific guidelines on agreed issues of mutual concern.

The guidelines complement but never lessen or detract from the minimum standards defined in the relevant legislation and codes.

If specific guidelines have not been developed, the ACS will continue to work directly from the standards set by WORKSAFE Australia and any Codes of Practice relating to the area of concern.

ACS OH&S programs are monitored by the National Consultative Council (NCC) through its National OH&S Sub Committee. Under NCC endorsement, this Sub Committee has responsibility for the determination of priorities in the development of guidelines and the appointment and direction of working parties.

Guidelines developed by the Joint ACS/PSU Working Parties are subject to bi-annual review or interim amendment where appropriate.

.....

PREAMBLE

Guidelines advising officers on the potential for exposure to the fumigant methyl bromide were initially reviewed in May 1992. A Joint ACS/PSU OH&S Working Party has further reviewed the guidelines which now address all those fumigants identified as a potential hazard (see Annexes A - G) to officers involved in cargo examinations.

Workplace exposures have highlighted that requirement and National Directors/Managers must recognize that **current work practices will have to change** to align with the revised requirements of the guidelines and the information provided in ensuring compliance with the *duties of care* implicit in the OH&S (Commonwealth Employment) Act of 1991

It is essential that Senior Management, Line Managers/Supervisors and individual officers are aware of and understand their responsibilities in terms of the Act where required to comply with the requirements set forth in these guidelines.

**DO YOU HAVE THE
MSDS
OR
MATERIAL SAFETY DATA SHEET
FOR THE FUMIGANT/VAPOUR
YOU HAVE DETECTED**

?

NO SMOKING

**DURING OR IN THE VICINITY OF
TESTING, VENTILATION, EXAMINATION
OF CONTAINERS**

OR

SHIP SEARCHES

OFFICERS SHOULD NOT WEAR

CONTACT LENSES

**DURING THESE OPERATIONS
AS SOME FUMIGANTS CAN CAUSE
THE LENSES TO ADHERE TO THE
CORNEA RESULTING IN EXTREME
PAIN, EYE DAMAGE AND EVEN
LOSS OF SIGHT**

GUIDELINES

INTRODUCTION

1. In accordance with the Terms of Reference for Review of OH&S Guidelines, these guidelines have been reviewed by a Joint ACS/PSU OH&S Working Party and subsequently endorsed by the National OH&S Sub Committee in session.
2. In planning and conducting cargo examination and ship search operations Regional Management, Line Managers/ Supervisors and specifically Team Leaders must be satisfied that the officers involved are conversant with these guidelines and fully understand the procedures to be followed in the testing and ventilation of containers and actions to be taken where exposures have occurred and or subsequent to the examination(s).
3. The OH&S (Commonwealth Employment) Act 1991 imposes a general duty of care to protect the health and safety of Commonwealth employees at work in respect to 'employers, persons in control of workplaces and others in the workplace'.
4. In order to obtain an accurate assessment of a container's atmosphere and in support of current testing procedures, National Directors should seek the co-operation of Brokers in assessing all available documentation related to targeted containers. Similarly, members of the Working Party should be advised by National Directors of any concern relating to the guidelines and the directions contained therein, to ensure as far as possible, compatibility of the guidelines with current or intended cargo examination practices.
5. Fumigants are highly toxic in minute quantities. They are generally odourless, colourless and may be cumulative in body tissue. Fumigants, the presence of which can be determined by current testing procedures, are Methyl Bromide, Phosphine, Hydrogen Cyanide and the vapour Formaldehyde.
6. Accordingly, ALL CONTAINERS must be tested with available testing equipments. CONTAINERS MUST NOT BE EXAMINED WHERE a label or document indicates SULFURYL FLUORIDE. Whereas Formaldehyde is not classified as a fumigant, it is known to exist in containers and is emitted by certain types of cargoes.

EXPOSURE LIMITS

7. THE ACS AIM IS FOR A ZERO EXPOSURE TO FUMIGANTS.

8. Whereas the ACS aim at para 7 above calls for a zero exposure limit, it should be understood that where an accidental exposure occurs, current medical opinion considers that certain levels of exposure as noted by the Material Safety Data Sheet (MSDS) may be tolerated without detrimental effect.

FIRST AID

9. Each Cargo Examination Team is to include an officer qualified in first aid and oxygen therapy and have readily available/access to portable oxygen equipment and an approved expired air resuscitation mask with the facility to take supplementary oxygen. First Aid Officers must be aware of the general first aid measures to apply in the event of a fumigant exposure. The First Aider should attend annual refresher training in oxygen therapy and basic life support. **THIS OFFICER MUST NOT BE PUT AT RISK OF EXPOSURE.**

10. The Team Leader must ascertain prior to the operation(s) that the First Aider has the locale and telephone number of the nearest Ambulance Service to the intended workplace. **In all cases the victim(s) must be transported by ambulance and no container examination will take place where there is no ready access to such a service.**

11. The decision to call an ambulance will be made by the Team Leader or the First Aider.

12. All members of the Team should be aware the symptoms and signs of poisoning depend on the nature of the intoxicating substance. Any of the following may occur:

- 12.1 abdominal pain;
- 12.2 nausea and/or vomiting;
- 12.3 drowsiness;
- 12.4 burning pains, from the mouth to the stomach;
- 12.5 breathing difficulty;

- 12.6 tight chest;
- 12.7 headache;
- 12.8 ringing in the ears;
- 12.9 blurred vision;
- 12.10 a smell of fumes occurs on the breath;
- 12.11 contamination of the skin;
- 12.12 change of skin colour, with blueness of lips;
- 12.13 burns around and inside the mouth, and to the tongue; and
- 12.14 sudden collapse.

13. First Aiders are to be specifically aware of the following general first aid measures which should be taken immediately in all cases of exposure:

- 13.1 the victim(s) should be removed by suitably protected personnel from further exposure into fresh air, taking care that the First Aiders and officers assisting are not themselves affected;
- 13.2 loosen tight clothing;
- 13.3 if unconscious and breathing, move the victim(s) onto his/her side with jaw/neck extended; to ensure their airway is clear and supplement breathing with oxygen therapy if available, monitor closely and watch for cessation of breathing;
- 13.4 if unconscious ensure the victim(s) is comfortable; regularly monitor their vital signs;

- 13.5 if the victim(s) has breathing difficulty, a tight chest, coughing or signs of intoxication, seek medical aid urgently; and supplement breathing with oxygen therapy if available; and
- 13.6 monitor breathing continuously. If breathing stops, apply EAR (Expired Air Resuscitation) using the mask to mouth method supplemented with oxygen. Monitor the pulse, watch for cardiac arrest and call an ambulance urgently.
- 13.7 observe the victim(s) for any symptoms and or signs of exposure;
- 13.8 if any signs or symptoms of exposure are observed, seek medical aid; and
- 13.9 ensure that removed clothes are laundered separately from uncontaminated clothing utilising specialist (hazardous contamination) laundries.

If the fumigant has come into contact with the skin, the effects can be lessened by:

- 13.10 flushing contaminated area with lukewarm, gently running water for at least 20 minutes by the clock;
- 13.11 under running water, remove contaminated clothing, shoes and leather goods e.g. watchbands, belts;
- 13.12 if irritation persists, repeat flushing;
- 13.13 completely decontaminate clothing before re-use and do not re-ues contaminated footwear or leather goods;
- 13.14 dry and wrap the victim(s) in a blanket(s);

Where there is contact with the eye(s):

- 13.15 thoroughly irrigate the eye(s) by holding the eyelids open and washing the eye(s) with clean lukewarm gently flowing water for 20 minutes

by the clock. Take care not to rinse contaminated water into the non-affected eye(s). If irritation persists, repeat flushing;

13.16 contact lenses should be removed by the wearer if worn; and

13.17 obtain medical assistance immediately.

If the fumigant has been inhaled/ingested:

13.18 and the victim(s) remains exposed, he/she should be removed by the team members equipped as for the testing and ventilation and placed in the open air or in a room where all the doors and windows are open and supplement the persons breathing with oxygen therapy;

13.19 seek medical assistance urgently;

13.20 restrictive clothing worn by the victim(s) should be loosened;

13.21 never give anything by mouth if victim(s) is rapidly losing consciousness, or is unconscious or convulsing;

13.22 have victim(s) rinse mouth thoroughly with water;

13.23 DO NOT INDUCE VOMITING;

13.24 if vomiting occurs naturally, rinse mouth;

- 13.25 monitor breathing and pulse rate. If breathing is affected, supplement with oxygen therapy AND CALL AN AMBULANCE URGENTLY. If breathing stops, start EAR by mouth to mask and supplement with oxygen. If the pulse stops (cardiac arrest) start Cardiopulmonary Resuscitation and CALL AN AMBULANCE URGENTLY);
- 13.26 provide general supportive measures (comfort, warmth, rest etc);
- 13.27 the victim(s) should be wrapped in a blanket(s) to offset chilling but not to the point of overheating;
- 13.28 the victim(s) should be kept quiet and their vital signs should be monitored constantly; and
- 13.29 if a victim(s) has a seizure or convulsion, protect them from further injury. Do not restrict movement. Do not attempt to place anything in the victim's mouth. Place the victim on their side once the seizure has stopped, check their airway and ensure they have a clear airway. Assess their vital signs and constantly monitor. Call for an ambulance.

OCCUPATIONAL HEALTH SURVEILLANCE

14. The OH&S (CE) Act 1991 imposes a duty of care on the ACS and individual(s) and responsibilities on individual employees for the protection of personal health and safety at work. With respect to cargo examination where there is the potential for exposure to fumigants, all officers involved in this work will participate in a health surveillance program as a condition of employment within that facet of ACS operations.

15. The purpose of the health surveillance program is to ensure, as far as possible, that individual health is not being and will not be put at risk. Health surveillance will enable the assessment of individual risk and, if necessary, group risk. It is useful in establishing if there has been lung or skin absorption and in some cases can identify unknown or unexpected exposures that may affect long term health.

16. The health surveillance program will have the following elements:

- 16.1 an initial standard medical/biological examination before commencing the work to establish if there are any health concerns about the officer carrying out this work and to establish a baseline for future reference;
- 16.2 periodic second yearly medical/biological examinations while involved in the work to ensure that no health concerns have arisen which would prevent the officer continuing in the work; and
- 16.3 additional medical/biological examinations if the need arises, e.g. following an acute exposure or suspected acute exposure, or if reasonably requested by the officer or the ACS.

17. In the event of an acute exposure or suspected acute exposure medical/biological examination should be performed as soon as possible and certainly within 5 days.

(The referral form for initial and periodic medical examinations is given at Annex H and a list of accredited health and biological monitoring organisations/individuals is held by your Regional OH&S Co-ordinator)

PERSONAL PROTECTION

18. Each Officer of the team involved in the ventilation and initial/subsequent entries prior to clearance of the fumigant must wear a respirator with appropriate canister where detectors indicate the presence of a fumigant.

19. Individual(s) entering contaminated atmospheres, even in emergency circumstances, must wear breathing apparatus (see RESPIRATORS), cotton drill overalls fitted at wrist/throat, incorporating a balaclava type hood. Gloves which are impervious to

fumigants and comply with Australian Standard (AS) 2161 (Industrial Gloves and....) will be worn and care must be taken to cover the tops of the gloves with the cuffs of the overalls. Similarly, over-boots are to be worn with the tops covered by the overall leg.

20. It should be noted that rubber and leather items of clothing will absorb fumigants leading to skin contamination.

CLOTHING

21. Officers involved in test/ventilation procedures are to have access to task specific PPE items from a dedicated pool.

22. On completion of the test/ventilation process these pool overalls must be discarded and placed in sealed bags, clearly marked, for commercial (hazardous) laundering. Officers will be issued light/heavy weight overalls for normal tasking and under no circumstances are officers to forego showers immediately following an operation or to continue to wear potentially contaminated overalls in or away from the workplace.

23. In any cargo examination, the potential exists for the delegated team members to be exposed to fumigants during the test/ventilation process. Under no circumstances therefore, are such examinations to take place where there is no ready access to washroom/change facilities.

24. The Team Leader must ensure that sealable plastic bags are available for the subsequent transport of contaminated overalls and or items of PPE.

25. Officers completing an examination task where fumigants were present, are, under no circumstances, to leave the worksite wearing potentially contaminated clothing and or equipment. Adherence to these instructions will eliminate the potential for exposure to the effects of fumigant residue build-up and will ensure that the vehicle, office or home environment is not contaminated.

FOOTWEAR

26. Australian Standard (AS) 2210 - 1980 (Safety Footwear) sets out general requirements for all types of safety footwear and specific requirements for heavy duty (Type 1), medium duty (Type 2), light duty women's (Type 3) and waterproof (Type 4). Officers involved in the

test/ventilation procedure will wear over-boots in addition to safety footwear.

27. Officers entering a container which has been ventilated must wear safety footwear and where residues (powder) exist, e.g. Aluminium Oxide, must brush the powder from the footwear taking care that it is not inhaled or contact made with moisture which could result in the release of further Phosphine gas.

RESPIRATORS

28. Team Leaders are to assume responsibility for ensuring that respirators and canisters are maintained as per the procedure outlined in the training package.

29. The prescribed respirator will be the full facepiece canister type and be provided with the instructions as to use and maintenance.

30. Respirators must comply with Australian Standard (AS) 1716 (Respiratory Protective Devices).

31. On each occasion a full facepiece respirator is worn, the facial fit should be tested by closing the inlet to the canister with the palm of the hand and inhaling deeply. The vacuum so created should cause the facepiece to adhere to the face for at least 15 seconds. In addition, the valves should be checked, as should the canister so that it can be replaced before either its shelf life has expired, or it has lost its capacity to absorb the fumigant.

32. After use, the facepiece should be thoroughly wiped clean with fresh water and disinfectant.

33. All fumigant cannisters to be used in strict accordance with the manufacturer's instructions.

TESTING AND VENTILATION PROCEDURES

34. **Only the officer(s) designated by and under the supervision of the Team Leader is to open, enter a container or examine cargo until the testing procedure has been completed and the container declared clear of fumigant by the Team Leader.**

35. Where assistance is required by these officers during the test and ventilation procedure, it can only be provided by officers wearing the prescribed PPE.

36. Potential for exposure to fumigants exists during drilling (test) procedures to ascertain the presence of a fumigant within the container. During this operation care must be taken to immediately seal the hole, utilising masking tape, whilst preparations are made for testing.

37. Portable exhaust fans (flexible flume extractor systems) are to be the standard method for extracting fumigants from within containers. Equipment such as this can extract up to 1900 cubic metres of fumigant per hour. A 13 metre container holds 66.8 cubic metres, a 7 metre container some 30.6 cubic metres. Such lightweight portable equipments are compatible with generator sources.

38. On testing positive, a container can only be attended by the designated officer and where required his/her Assistant dressed in and utilising the prescribed PPE, the remaining officers vacating the immediate area for a minimum of 1 hour during which time the designated officer will continue the testing and or undertake the ventilation procedures.

39. On opening a container, the designated officer will place the ventilation hose as far as possible within the container before exiting. Following subsequent testing, after a a period with the door closed, this officer(s) may re-arrange cargo and re-position the equipment.

40. Officers may not approach or enter a container which has previously tested positive until the Team Leader has declared it free of fumigant.

MAINTENANCE - KITAGAWA ASPIRATOR PUMP

41. The correct and effective operation of the Kitagawa Aspirator Pump is an essential element in identifying hazardous fumigants and establishing the level of protection required together with the procedures to be undertaken.

42. The calibration and maintenance of this equipment to Manufacturer's Standard is a significant part of the Senior Manager's duty of care. This can be achieved by a regular maintenance program based on the information contained within the training package held by Equipment officers and permanent maintenance records are to be kept for audit purposes.

43. The training package identifies the need for defective test kits (aspirator pumps) to be returned to the supplier for repair or replacement.

TRAINING

44. Elements of the guidelines call for basic awareness training in testing and ventilation procedures as well as the maintenance and application of PPE.

45. A training module comprising training notes and a video on the care and use of the Kitagawa Aspiring Pump and Full Facepiece Canister Respirators is held by Senior Managers. The training module also provides information on procedures associated with both testing and ventilation.

46. In complying with the obligations and duties of care implicit in the OH&S (CE) Act 1991 management, through Line Managers and Supervisors, must be satisfied that all appropriate officers are familiar with the requirements of the guidelines.

47. Senior Managers should comment on such training in their quarterly reports and include a reference to refresher and induction training.

RECORDS

48. A permanent personnel record is to be maintained for each cargo examination operation in the format shown at **ANNEX I**. Completed by the Team Leader, the record for each operation will be held by the appropriate Regional Manager and made available to the Regional OH&S Co-ordinator, Health and Safety Representatives, CPSU officers, COMCARE officers and Medical Officers on request and/or during audit activities.

REVIEW

49. In accordance with the Terms of Reference for Review of OH&S guidelines, these guidelines will be subject to bi-annual review by the National OH&S Sub Committee or interim amendment approved by the Sub Committee out of session as required or where appropriate.

**IF YOU HAVE INFORMATION
ADDITIONAL TO THAT PROVIDED BY THESE
GUIDELINES**

PLEASE REPORT IT TO:

**REGIONAL MANAGEMENT
and or
REGIONAL OH&S CO-ORDINATOR
NATIONAL OH&S CO-ORDINATOR**

**ANNEX A to
GUIDELINES - FUMIGANTS
SEPTEMBER 1994**

INFORMATION SHEET
FUMIGANT HYDROGEN CYANIDE

INTRODUCTION

1. Hydrogen Cyanide is a colourless, highly toxic gas that has an odour of bitter almonds or Benzaldehyde. It is an extremely quick acting poison which acts by combining in tissues with the enzymes associated with cellular oxidation causing oxygen depletion in the tissues and death through asphyxiation. Small concentrations are still extremely hazardous and the characteristic odour cannot be wholly relied upon.
2. Hydrogen Cyanide is occasionally used in the fumigation of ships and can persist at the lower levels of the vessel for long periods.
3. Cyanide poisoning is relatively uncommon and unless Hydrogen Cyanide has been positively identified in the area of operations it is more likely that the individual(s) is suffering from something else. Symptoms may include nausea, headache, a sense of suffocation and agitation.

EFFECTS OF EXPOSURE

4. The onset of symptoms after exposure is extremely rapid with inhalation, followed by absorption, the most significant entry routes into the body.

SHORT TERM EXPOSURE

- 4.1 symptoms and signs of mild cyanide poisoning include irritation of the nose, mouth and throat, headaches, giddiness, nausea, a sense of suffocation and a feeling of general weakness in the arms and legs;
- 4.2 chronic cyanide poisoning symptoms replicate those of mild poisoning but may also include vomiting;

- 4.3 severe cyanide poisoning is initially characterised by gasping for breath and loss of consciousness followed by a cessation of breathing and heart beat; and

LONG TERM EXPOSURE

- 4.4 repeated or prolonged exposure to cyanide may produce a rash in some individuals.

FIRST AID

5. Refer to general first aid procedures at guidelines.
6. Where inhalation has occurred, remove victim(s) to fresh air as soon as practicable. If victim has ceased to breathe **DO NOT conduct mouth to mouth or mouth to nose resuscitation due to the danger posed to the first aider becoming overwhelmed by residual gas.** Instead, use a disposable resuscitation bag and mask. If pulse is absent conduct cardiac massage. Administer 100% oxygen by mask if available and remove all contaminated clothing and wash affected areas with copious quantities of water and soap. Administer the antidote Kelocyanour if available and arrange immediate transfer and treatment by ambulance.

PERSONAL PROTECTION

7. Refer to guidelines.
8. Respirator canisters must be approved for use with Hydrogen Cyanide.
9. **Under no circumstances must officers knowingly expose themselves to Hydrogen Cyanide without adequate protection, even in the event of another officer being overcome by the gas.**

VENTILATION PROCEDURES

10. As the gas primarily exists in the lower extremities of the vessel, ventilation is difficult if not impossible. Officers must ascertain from the ship's command if the ship has been fumigated with hydrogen cyanide. If it has then appropriate PPE must be worn in areas where the ventilation is poor or not usually frequented by ships crew.

AWARENESS

11. Prior to an operation, Team Leaders are to emphasise the **extreme hazard posed by hydrogen cyanide** and the necessity to maintain safety procedures and precautions at all times.

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**ANNEX B to
GUIDELINES - FUMIGANTS
SEPTEMBER 1994**

INFORMATION SHEET
FUMIGANT - PHOSPHINE

INTRODUCTION

1. Aluminium Phosphide is a compound produced either in tablet, pellet or sachet form with an odour similar to carbide or decaying fish. A greyish-white powder is the only indication that fumigation with phosphine has taken place. In its solid unspent form aluminium phosphide reacts violently on contact with moist air or water producing a highly toxic flammable gas phosphine (PH₃).
2. Aluminium phosphide is primarily produced in India and all containers originating from this region must be suspected as having been fumigated with this particular fumigant.
3. The effects of phosphine on the human body is not completely understood. However areas that may be affected include the lungs, nervous system, liver, kidneys, circulation system and the brain.

EFFECTS OF EXPOSURE

4. Inhalation is the most significant entry route to the body. Some absorption may occur through the membrane of the eyes and it is for this reason that officers potentially at risk must not wear contact lenses.

SHORT TERM EXPOSURE

- 4.1 The predominant effects are central nervous system depression and lung irritation. There may be pulmonary oedema (swelling in the tissue), dilation of the heart and hypermia (present in high concentrations in the blood) of the visceral (heart, lungs, liver and kidneys) organs. Inhalation can cause coma and convulsions leading to death within 48 hours. However most reported cases recover fully with no after-effects.

LONG TERM EXPOSURE

- 4.2 Chronic poisoning is characterised by anaemia, bronchitis, gastro-intestinal disturbances and visual, speech and motor disturbances and may result from continual exposure to very low concentrations.

FIRST AID

5. Refer to guidelines.
6. Where inhalation has occurred remove victim(s) into fresh air as soon as practicable. If breathing has stopped, conduct artificial respiration and if no pulse is evident conduct cardio-pulmonary resuscitation.
7. Where ingested, administer water and induce vomiting. If available, give syrup of Ipecac.
8. Arrange immediate transfer and treatment by ambulance.

PERSONAL PROTECTION

9. Refer to guidelines.

VENTILATION PROCEDURES

10. Refer to guidelines.

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ANNEX C to
GUIDELINES - FUMIGANTS
SEPTEMBER 1994

INFORMATION SHEET

FUMIGANT - SULFURYL FLUORIDE

INTRODUCTION

1. Sulfuryl fluoride is a colourless, odourless and highly toxic inert gas and is used in the fumigation of containers. It is manufactured by DOW Chemicals (USA) under the brand name VIKANE and marketed world-wide. Sulfuryl fluoride is known to be used to fumigate containers originating from the Americas and Singapore. Its inert nature makes it a difficult gas to detect and **containers suspected of being fumigated with sulfuryl fluoride will not be approached by ACS officers under any circumstances.**

2. The only significant exposure route into the body is by inhalation. This can result in mild irritation at low concentrations or death at high concentrations. Principle areas affected being the lungs and central nervous system.

EFFECTS OF EXPOSURE

3. Absorption through the eyes and skin is not considered to be a problem, nor is ingestion. The only significant entry route into the body is through inhalation.

SHORT TERM EXPOSURE

3.1 Principle effects are confined to irritation of eyes and lungs. Exposure to high concentration may be fatal, cause lung edema (swelling) or central nervous system depression (acting like an anaesthetic).

LONG TERM EXPOSURE

3.2 The effects of long term exposure to low concentrations is not known.

FIRST AID

4. Refer to guidelines.
5. Where inhaled, remove victim(s) into fresh air as soon as practicable. If the victim is not breathing conduct artificial respiration and if breathing is difficult, administer oxygen. Keep victim quiet and maintain normal body temperature.

PERSONAL PROTECTION

6. As this fumigant cannot be detected, no officer is to have any potential contact where the presence of sulfuryl fluoride is suspected.

VENTILATION PROCEDURES

7. As this fumigant cannot be detected, there is no safe effective method of venting a container. No officer is to have any potential contact where the presence of sulfuryl fluoride is suspected.

**ANNEX D to
GUIDELINES - FUMIGANTS
SEPTEMBER 1994**

INFORMATION SHEET

FUMIGANT - METHYL BROMIDE

INTRODUCTION

1. Methyl bromide is a colourless, non-inflammable gas with no taste or odour at flow concentrations. At levels well above the standard a sweetish odour may be present. Methyl bromide is currently used as a fumigant in pest control.
2. As a fumigant, methyl bromide often contains chloropicrin (approximately 2%) which acts as a warning agent of high fumigant levels by irritating eyes, nose and throat. However this does not negate the need for careful measurement of methyl bromide levels, because the proportion of the two substances in the environment may vary with fumigation conditions due to their differing properties.
3. The fumigant methyl bromide is a highly toxic substance and many cases of poisoning, some fatal, have occurred. Methyl Bromide is a heavier than air gas that can pool in the back of a container or even diffuse into tightly packed or sealed cartons. If a container is new and well sealed the methyl bromide will not dissipate during transport.
4. Chloropicrin dissipates first and if the fumigation process has been poorly performed methyl bromide pools in the bottom of a container. Chloropicrin therefore is not always a useful indicator of the presence of methyl bromide.

EFFECTS OF EXPOSURE

5. Effects may result from inhalation, contamination of clothing leading to absorption and contact with the eyes or skin. Inhalation may affect the respiratory and central nervous systems. Symptoms of which may be delayed by up to 48 hours.

SHORT TERM EXPOSURE

- 5.1 Methyl bromide may cause headache, dizziness, nausea, vomiting, blurred vision, slurred speech and convulsions. Skin blistering may occur following acute exposure.

High concentrations may also cause lung irritation resulting in congestion and coughing, chest pain and shortness of breath. Lung effects may be delayed in onset. Exposure may also result in kidney damage. If the exposure is less severe, an itching skin rash may appear after several days. High concentrations can in some instances cause unconsciousness and death.

LONG TERM EXPOSURE

- 5.2 Prolonged or repeated exposure to methyl bromide may cause a variety of symptoms and signs, mostly due to injury to the central nervous system. These include visual disturbances, slurred speech, numbness of the arms and legs, confusion, shaking and loss of consciousness.

FIRST AID

6. Refer to guidelines.

PERSONAL PROTECTION

7. Refer to guidelines.

VENTILATION PROCEDURES

8. Refer to guidelines.

**ANNEX E to
GUIDELINES - FUMIGANTS
SEPTEMBER 1994**

**INFORMATION SHEET
FORMALDEHYDE**

INTRODUCTION

1. Formaldehyde is a colourless liquid that readily vapourises at room temperature to produce a pungent, irritating, flammable gas. It can be formed by the decomposition of several industrial organic compounds and its presence in cargo restricted to confined spaces should always be suspected.

EFFECTS OF EXPOSURE

2. The main exposure route to Officers involved in cargo examination or ship search would be by inhalation.

SHORT TERM EXPOSURE

3. The vapour is irritating to the mucous membranes and respiratory tract and can result in headaches, dizziness, coughing, breathing difficulties, nausea and possible pulmonary oedema. Usually the effects are felt at and above the 2ppm level and results in retreat.

ACUTE EFFECTS

4. EYES

Severe eye irritant. May cause watering of the eyes. Corrosive to eyes and may cause corneal burns. Contamination of eyes may cause permanent injury. Rinse eyes thoroughly under running water for 15 minutes by the clock with eyelids held open. Seek specialist advice immediately.

5. **INHALATION**

Coughing, breathing difficulties, possible loss of consciousness. Remove affected person to fresh air and seek medical attention immediately. Apply artificial respiration if necessary.

PERSONAL PROTECTION

6. The following personal protection is recommended:

- 6.1 protective goggles (tight fitting);
- 6.2 protective gloves (Chloroprene/Nitrile/PVC); and
- 6.3 approved organic vapour respirator

7. Since the vapour is moderately flammable and can form combustible mixtures with air, all sources of ignition and heat should be avoided. **NO SMOKING.**

**ANNEX F to
GUIDELINES - FUMIGANTS
NOVEMBER 1994**

INFORMATION SHEET

<p>FUMIGANT ETHYLENE DIBROMIDE</p>

INTRODUCTION

1. Ethylene Dibromide is a colourless, non-flammable liquid with a mildly sweet odour, similar to chloroform. It evaporates at room temperature, and, because of its toxic nature is used as a fumigant. The vapour is irritating to the eyes, nose and throat.
2. This fumigant is heavier than air and tends to pool in containers and confined spaces. However, it has less diffusive capacity than the fumigant Methyl Bromide. The advantages/disadvantages are that it diffuses less into cardboard cartons and other wrapping but once it does so, the ventilation period required increases.
3. Although Ethylene Dibromide is non-flammable it breaks down into highly poisonous gases when heated or subjected to fire. Thus, as with other fumigants, NO SMOKING is to take place during testing, ventilation and or examination of containers.

EFFECTS OF EXPOSURE

4. Usual method of entry is through inhalation of the vapours, which are irritating to eyes, nose and throat. If officers are physically exerted and thus perspiring, entry can be through the skin as Ethylene Bromide is very soluble in body oils and will result in a reddening of the skin.
5. Organic injury to the liver and kidneys can follow exposure.

SHORT TERM EXPOSURE

6. Symptoms are slight smarting of the eyes and respiratory system but the effect is temporary. The vapour is poisonous if inhaled and can cause headache, dizziness and in high concentrations, loss of consciousness.

LONG TERM EXPOSURE

7. Ethylene Dibromide resembles Methyl Bromide in that it can accumulate in the body fat over a period of time. It is carcinogenic and also causes progressive injury to the liver and kidneys. These effects are aggravated by the drinking of alcohol.

FIRST AID

8. Refer to GUIDELINES.

PERSONAL PROTECTION

9. Refer to GUIDELINES.

VENTILATION PROCEDURES

10. Refer to GUIDELINES.

**ANNEX G to
GUIDELINES - FUMIGANTS
NOVEMBER 1994**

INFORMATION SHEET

<p>FUMIGANT ETHYLENE OXIDE</p>

INTRODUCTION

1. Ethylene Oxide is a colourless, flammable and explosive gas at room temperature with a sweetish odour. Mixed with Carbon Dioxide ("Fumigas") AND Fluorocarbon ("Sterigas") it is widely used as a sterilising agent and fumigant. It is highly soluble in water. The vapour is irritating.
2. Because of its high flammability and explosive nature, all heat sources should be eliminated from the vicinity of a container suspected of being fumigated with Ethylene Oxide. As with all other fumigants, NO SMOKING is to be permitted in the vicinity of test, ventilation and examination procedures.

EFFECTS OF EXPOSURE

3. At room temperature Ethylene Oxide is a gas and therefore the usual route of entry is through the respiratory tract. Since it is soluble in water, contamination of the skin and eyes can take place with low concentrations resulting in moderate irritation.

SHORT TERM EXPOSURE

4. The onset of symptoms can be delayed for serious exposure and include general anaesthesia, nausea, vomiting, coughing, irritation to eyes and nose, loss of smell and progressively, stupor and onset of coma.
5. Inhalation of high vapour concentrations can cause irritation and damage to the eyes and upper respiratory system, hoarseness, coughing, headache, nausea and recurrent vomiting, fatigue, pulmonary oedema and even death.

6. Less frequently reported effects include muscular weakness, abdominal discomfort, diarrhoea and acute encephalopathy.

LONG TERM EXPOSURE

7. With prolonged low level exposure, symptoms may only manifest after a long interval. Effects have been associated with cataract development and the fumigant is considered to be carcinogenic.

FIRST AID

8. Refer to GUIDELINES.

PERSONAL PROTECTION

9. Refer to GUIDELINES

VENTILATION PROCEDURES

10. Refer to GUIDELINES



AUSTRALIAN CUSTOMS SERVICE

(ANNEX H)

TO: (TESTING AUTHORITY)

.....
.....
.....

MR/MS
an officer of the Australian Customs Service has been referred to you for an INITIAL/PERIODIC * medical examination as part of a health surveillance program for officers undertaking cargo examination duties, which involves work in confined spaces, use of respirators and potential for exposure to fumigants.

The most recent work the officer has undertaken involved potential for exposure to:

- . Methyl Bromide.
- . Hydrogen Cyanide.
- . Aluminium Phosphide.
- . Ethylene Dibromide.
- . Ethylene Oxide.
- . Formaldehyde.
- . Sulfuryl Fluoride. #

For INITIAL medical examination, the following is required:

- . Medical and Occupational History.
- . General Physical Examination (with particular emphasis on the CNS).
- . Spirometry (to assess fitness to use respirators and as a baseline).
- . Blood Bromide Estimation (to establish a baseline).
- . Liver and Renal Function Tests and Urinalysis.

For PERIODIC medical examination the following is required:

- . Medical and Occupational History since last seen.
- . General Physical Examination (with particular emphasis on the CNS).
- . Spirometry if indicated by the history or examination.
- . Blood Bromide and/or other other Fumigant Estimation as appropriate (see Attachment).
- . Liver and Renal Function Tests and Urinalysis.

Please indicate if in the individual case any additional tests advisable at initial or periodic examination.

The results of the medical examination should be discussed with the officer at the time of the consultation and if necessary the officer recalled to discuss any abnormal blood test results.

The officer and the ACS must be advised if there are significant health concerns about the officer commencing or continuing in this type of work.

* Indicate whether an initial or periodic examination is required.

Indicate which if any fumigants are applicable.

(Accounts should be forwarded to the Australian Customs Service, attention Senior Manager Corporate Support.)

(signed)

.....
 Senior Manager
(Branch)
(Region)
 AUSTRALIAN CUSTOMS SERVICE
/...../199

TIME:AMPM	DATE/...../199
OPERATION COMPLETED:	
TIME:AMPM	DATE/...../199
OPERATION COMMENCED:	
NUMBER LABELLED:	
NUMBER OF FUMIGATED CONTAINERS:	
.....	
LOCATION OF OPERATION:	
.....	
.....	
.....	
.....	
TEAM MEMBERS:	
TEAM LEADER: (PRINT):	
IDENTITY OF GROUP:	
REGION:	

ANNEX I to
GUIDELINES - FUMIGANTS
SEPTEMBER 1994

AUSTRALIAN CUSTOMS SERVICE

OPERATION INVOLVING FUMIGANTS

PERSONNEL RECORD

TEST (KITAGAWA) RESULTS:

TIME:.....AM.....PM READING:.....FUMIGANT:.....

AM PM READING: FUMIGANT:.. ..

AM PM READING:..... ..FUMIGANT:.....

AM.....PM.....READING:.....FUMIGANT:.....

.....
TEAM LEADER (PRINTED NAME).....
TEAM LEADER (SIGNATURE)

(DATE)/...../199

REVIEW DRAFT

C95/12284

077

076

**GUIDELINES
POTENTIAL FOR EXPOSURE TO FUMIGANTS
IN THE ACS WORKPLACE**

TRAINING PACKAGE

**CARE AND USE OF
TEST/VENTILATION
PPE & EQUIPMENT**

EMPLOYED IN CARGO EXAMINATION

MAY 1994

KITAGAWA ASPIRATING PUMP, MODEL AP-1

INTRODUCTION

In accordance with the "Guidelines for ACS personnel where there is potential for exposure to fumigant methyl bromide" and the Maintenance/Service manual provided by Komo Rikagaku Kogyo K.K., together with advice from the staff of Air-Met Scientific Pty. Ltd., this ACS training package has been prepared to instruct Officers in the use and care of the Kitagawa aspirating pump.

This package must be read in conjunction with:

- (i) the methyl bromide guidelines
- (ii) the standard operating procedures for
container ventilation established in each Region
- (iii) the Kitagawa aspirating pump video

The Kitagawa Aspirator pump, Model AP-1 is the standard device used to test containers for methyl bromide fumigant.

These notes are comprised of two sections:

- (i) a simple operating procedure for instructing CET Officers
- (ii) a Maintenance/Repair manual to be used for training
qualified technical personnel

The above manual needs to be read with the help of the accompanying video.

It is necessary to stress that the Kitagawa Aspirator pump is a finely crafted, accurate device consisting of airtight seals and locking mechanisms and should NEVER be tampered with by untrained personnel.

If the pump is found to be defective in any way, it is to be returned to the supplier for repair. All enquiries for repair are to be directed to:

Air-Met Scientific Pty Ltd
7 Ceylon Street
Nunawading
Victoria 3131

Phone (03) 877 1422

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CET CARGO STANDARD OPERATING PROCEDURE

A : BROMIDE

- OPERATING THE METHYL BROMIDE TEST KIT
DURING A CONTAINER CHECKINTRODUCTION

The C.E.T teams use the Methyl Bromide Test Kit to detect methyl bromide gas in containerised cargo. If not detected the gas can have dangerous side effects on both humans and dogs.

PROCEDURE

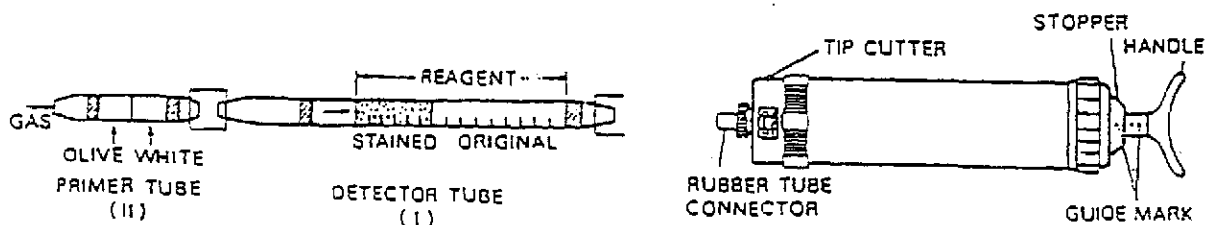
1. Take one Primer Tube (distinguishable by olive and white colours) and one Detector Tube (by blue, orange and white colours) out of test kit.
2. Break both ends of each tube off in the tip cutter facility provided on the main apparatus of the KITAGAWA (refer diagram).
3. Having broken the tips off ensure that pieces of glass broken off are not dropped anywhere in the vicinity of where the dogs are working.
4. The detector tube is then attached firmly to the main apparatus in the rubber tube connector with the arrow on the tube pointing towards the apparatus.
5. Then attach rubber joining tube from kit (1" long piece of tube) to other end of detector tube.
6. Attach primer tube to open end of joiner tube with clear glass end facing out.
7. The KITAGAWA is now ready to perform a test.
8. Turn the handle of the KITAGAWA until the two red dots align. Insert the end of the detector tube into the hole drilled in the container and pull the handle of the apparatus out until the markings on the handle has reached 100 (nb. the handle will lock in this fully extended position).

073

9. We now have to wait approx 1.5 minutes while the test occurs. Refer to indicator window located next to tip cutter. When the red line has stopped moving the test on this hole is complete.
10. Give a quarter turn to the handle and depress handle completely.
11. Repeat STEP 8.
12. If there is any Methyl Bromide Gas present in the container it will show up in the Detector Tube as a yellowish stain measuring from zero upwards. Sometimes the stain doesn't stand out, but by putting a piece of white paper behind the tube it will become evident. Because two pumps strokes have been performed the value on any positive reading gained should be halved.
13. If the test on a hole proves negative move to the next hole and repeat the test until all holes have tested negative.
14. The Detector tubes are only to be used on the one container, after which they should be replaced.

Special note: When the top of the stained layer shows obliquely read the concentration at the centre point. The total stain length should be read even if the stained layer gets multi-colour variation.

DIAGRAM:



"KITAGAWA" ASPIRATING PUMP

MODEL AP-1

MAINTENANCE/SERVICE MANUAL

CONTENTS

1. EXTERNAL PARTS
2. CHECK OF RUBBER SEAT VALVE ON HEAD COVER
3. CHECK OF AIRTIGHTNESS
4. CHECK OF DETECTOR TUBE PERMEABILITY
5. REPAIRS
6. KITAGAWA PUMP - EXPLODED DIAGRAM

KOMYO RIKAGAKU KOGYO K.K.

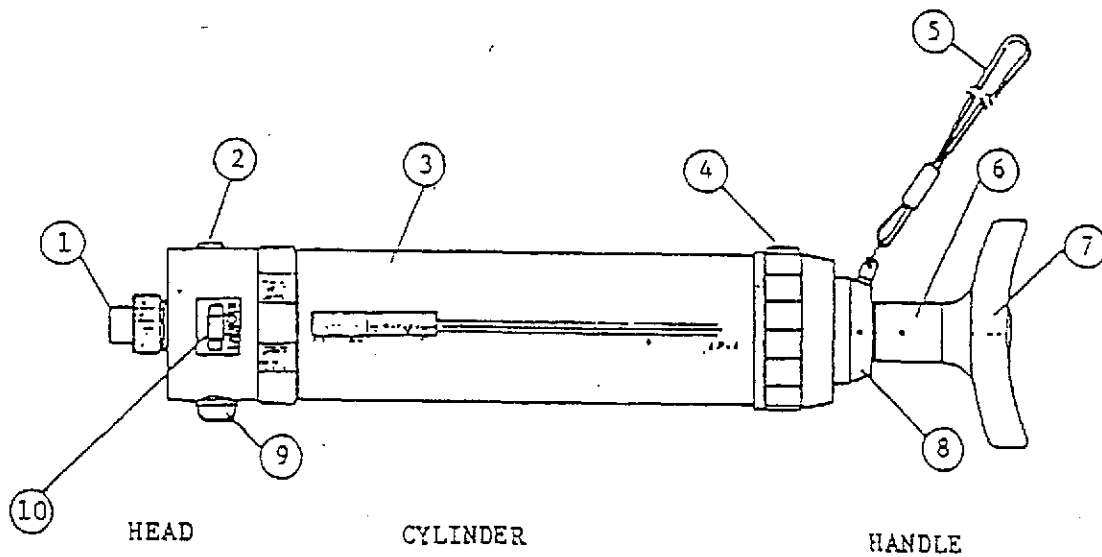
660 Miyauchi, Nakahara-ku

Kawasaki 211, JAPAN

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073

1. EXTERNAL PARTS



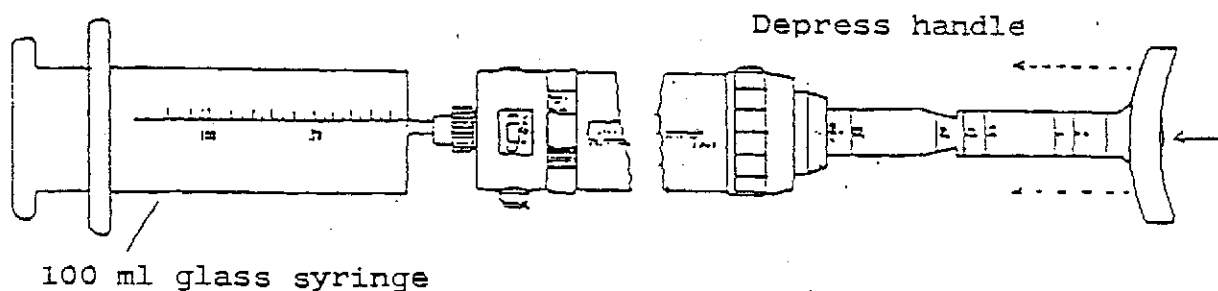
1. Rubber tube connector
2. Tip cutter
3. Cylinder
4. End flange
5. Hand strap
6. Piston shaft
7. Handle
8. Stopper
9. Rubber cap
10. Sample flow indicator

2. CHECK OF RUBBER SEAT VALVE ON HEAD COVER

1) Without inserting a detector tube, pull the pump handle a full stroke. The two red dots on the shaft should not be aligned when this is done.

2) Repeat the procedure after connecting a 100 ml glass syringe to the rubber connector of the pump with the syringe compressed to zero ml.

3) Note the volume of air remaining in the syringe after allowing to stand for a period of seven minutes. If the amount is less than 10 ml, the rubber seat valve is incorrectly fitted or positioned. In this case it needs to be reset or replaced.



3. CHECK OF AIRTIGHTNESS

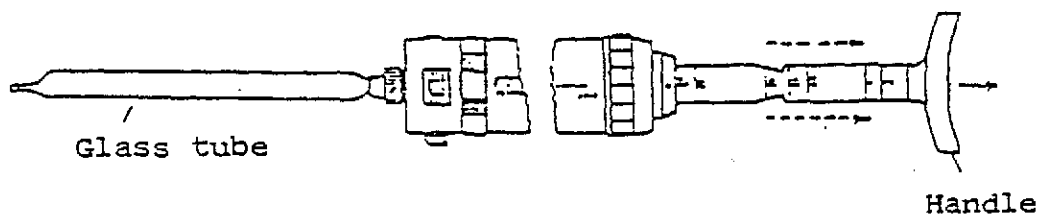
1) Insert a fresh, uncut detector tube into the rubber connector of the pump.

2) Align the red dots on the pump handle shaft and cylinder and pull the handle outwards a full stroke (100 ml).

3) Wait five minutes, then gently release the handle by rotating the handle a quarter turn (90°), returning to the starting position.

4) Check whether the handle returns completely to the original position. If it does not return completely, there could be an air leak in the pump. Causes could be as follows:

- (a) Rubber seat valve incorrectly fitted to the piston (A)
- (b) Rubber connector holder loosely fixed
- (c) Insufficient piston grease
- (d) Deterioration of the rubber tube connector
- (e) Faulty indicator

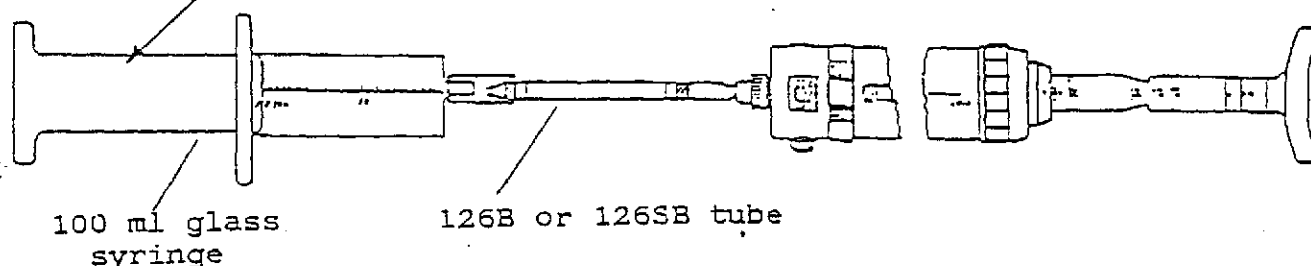


4. CHECK OF DETECTOR TUBE PERMEABILITY

1) Cut both tips of a fresh detector tube using the pump tip cutter (126B and 126SB tubes are most suitable because the flow resistance is highest).

2) Connect the tube to a 100 ml glass syringe at one end and the rubber connector tube of the pump to the other, as shown below:

Apply liquid paraffin



3) Align red dots on the handle shaft and pump cylinder and pull the handle outwards a full stroke.

4) Wait five to seven minutes and check whether the final volume of the syringe is less than 10 ml. If it is greater than 10 ml, the piston (A) or piston rod could be in poor condition or incorrectly fitted. Causes could be as follows:

- (a) Rubber seat valve rising on the piston.
- (b) Exhaust hole and/or screw hole in the piston burred.
- (c) Dust adhered onto the rubber seat valve on the piston.

5. REPAIRS

5.1 Rubber seat valve on head cover

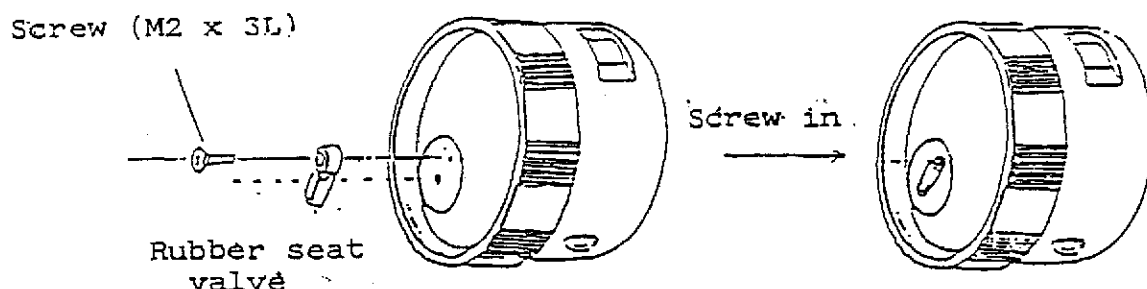
This part is not concerned with airtightness and should not be tampered with, generally.

1) Remove the head cover from the main body by adopting the following procedure:

- a) Wrap the head cover in a piece of cloth so as to present a firm grip.
- b) Grip the head cover assembly in a vice.
- c) Turn the cylinder counterclockwise. In order to avoid injuring the hands, do not turn the head cover assembly.

2) Check of the rubber seat valve on the head cover:

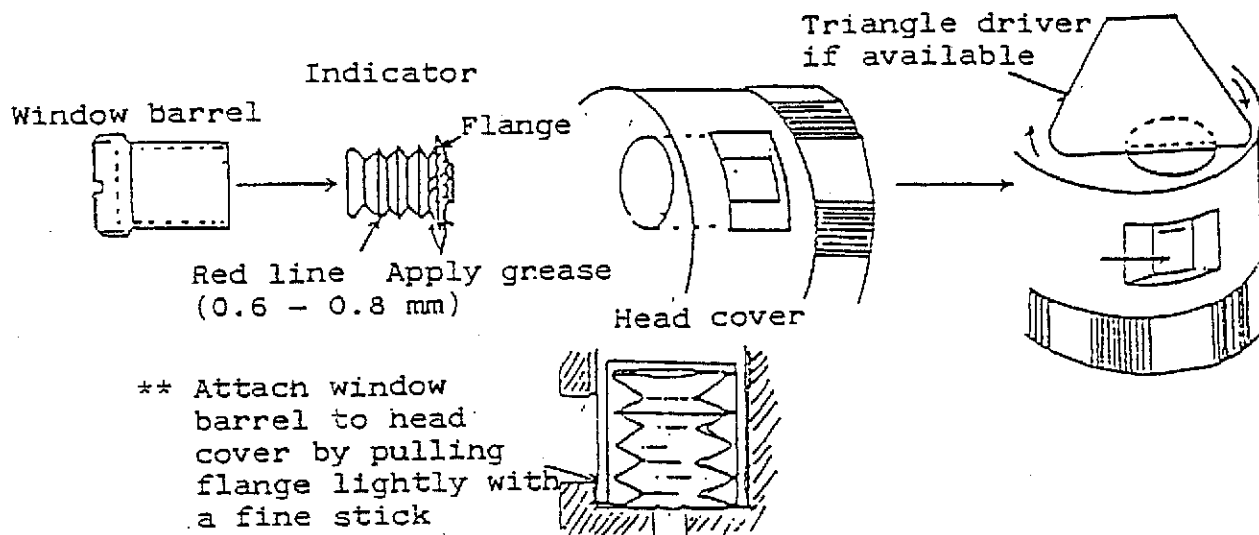
- a) Check if the rubber seat valve stops the airway of sample gas. If it does, adjust the position of the valve.
- b) Check if the valve is loose. If it is, screw it using a torque driver with 0.6 Kgf.cm force.



5.2 Poor airseal and incorrect sampling volume.

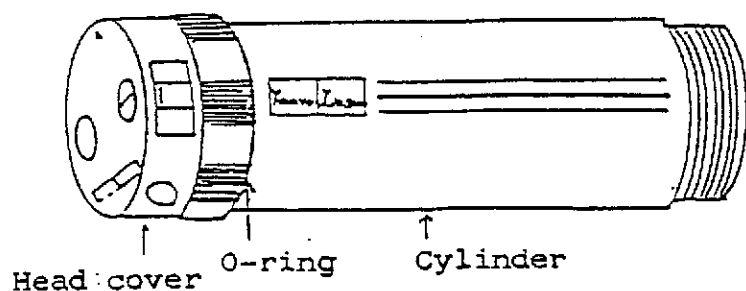
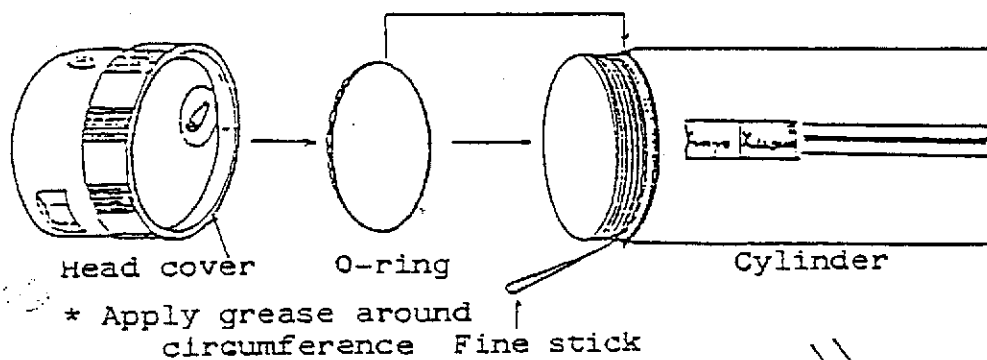
5.2.1 Incorrect fitting of the indicator in the head cover assembly. This flaw will not be seen unless the user dismantles the indicator. If this has been found to be the fault, it should be dismantled and the bellows and printed label replaced anew:

- 1) Unscrew the window barrel from the head cover and lightly pull the indicator flange with a fine stick or toothpick. Withdraw the bellows and replace.
- 2) Screw the indicator and the window barrel to the appropriate opening in the head cover:
 - (a) Attach the indicator, after thinly coating the flange with grease, to the appropriate hole.
 - (b) Place the window barrel on the indicator and screw to the head cover, being careful with the indicator window. See that the flange remains undetached from the window barrel.



5.2.2 Loose fit of the head cover assembly to the cylinder. It may be caused by low torsion, a faulty thread, a crack or a lack of grease. A new O-ring needs to be fitted:

- 1) Grease all the threaded portion inside the head cover assembly.
- 2) Place the O-ring on the cylinder and, while screwing, simultaneously raise with a fine stick or toothpick.
- 3) Connect the head cover to the cylinder and fasten adequately.



066
068

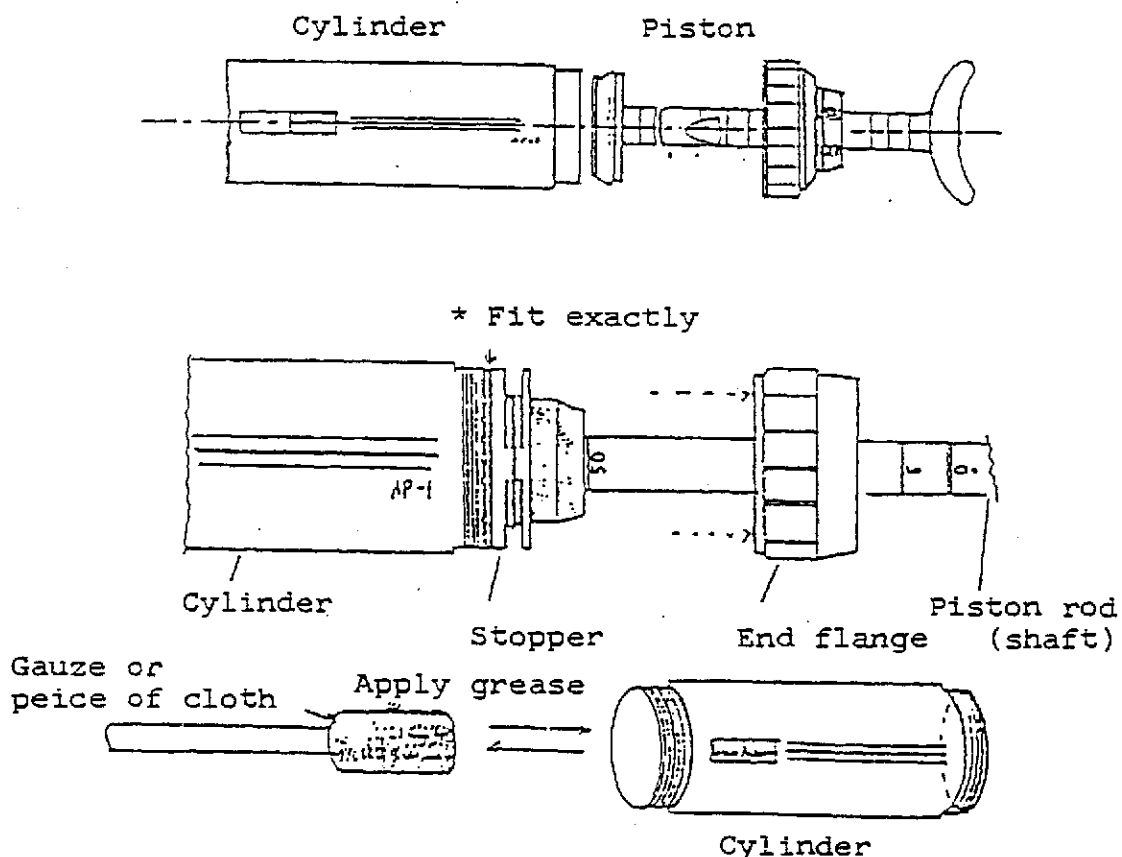
5.2.3 Lack of grease on the piston packing.

1) Removal of the piston rod (shaft):

- (a) Remove the rod cap by turning it counterclockwise.
- (b) Withdraw the handle and remove the piston rod from the cylinder.

2) Recoating with grease:

- (a) Wipe the piston packing and the inside wall of the using clean gauze or soft cloth.
- (b) Grease the packing and the inside wall of the cylinder. If packing is cracked, replace with new.



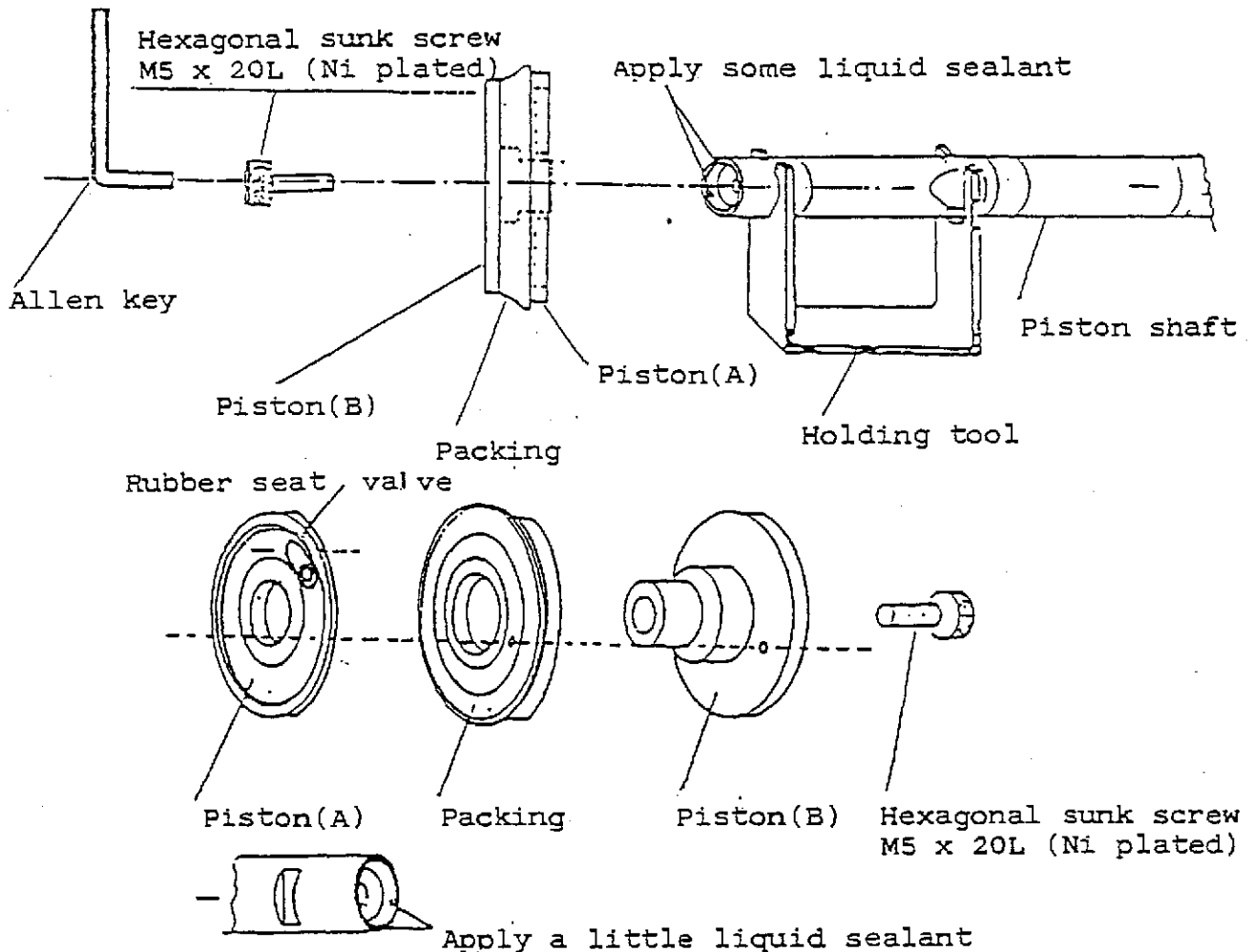
5.2.4 Replacing the piston packing:

1) Removal of the piston and replacement of the packing:

- (a) Dismantle the piston by unfastening the hexagon-headed oval counter-sunk screw using a hexagonal wrench.
- (b) Remove the piston (A) and (B) from the packing and replace with new packing fitted. N.B.- the new replacement is a whole unit consisting of (A), (B) and packing, and is much easier to fit.

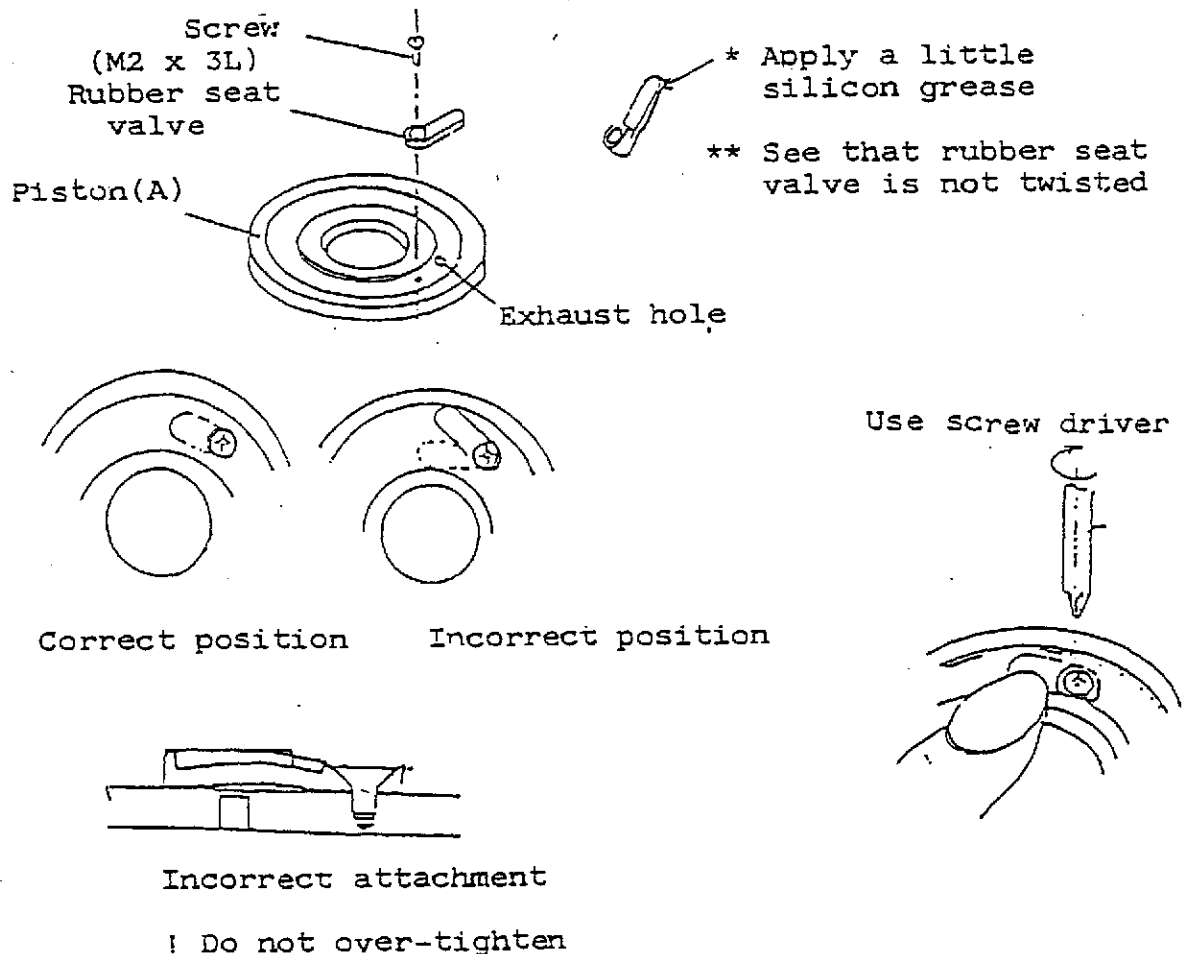
2) Connection of the piston and the piston rod (shaft):

- (a) Hold the piston rod to the setting hole of the piston and packing unit. A holding tool is available at present.
- (b) Attach the piston and packing unit to the rod shaft using the hexagon headed, oval counter-sunk screw (use an Allen key).



5.2.5 Incorrect attachment of the rubber seat valve to the piston (A):

- 1) Remove the rubber seat valve from the piston (A) by unscrewing the fixing screw and lifting up the rubber valve using a pair of tweezers.
- 2) Coat a small amount of silicon grease onto the underside of the rubber seat valve. If necessary, replace a new valve. N.B.- clean any excess grease from piston seat using soft gauze or cloth before replacing.

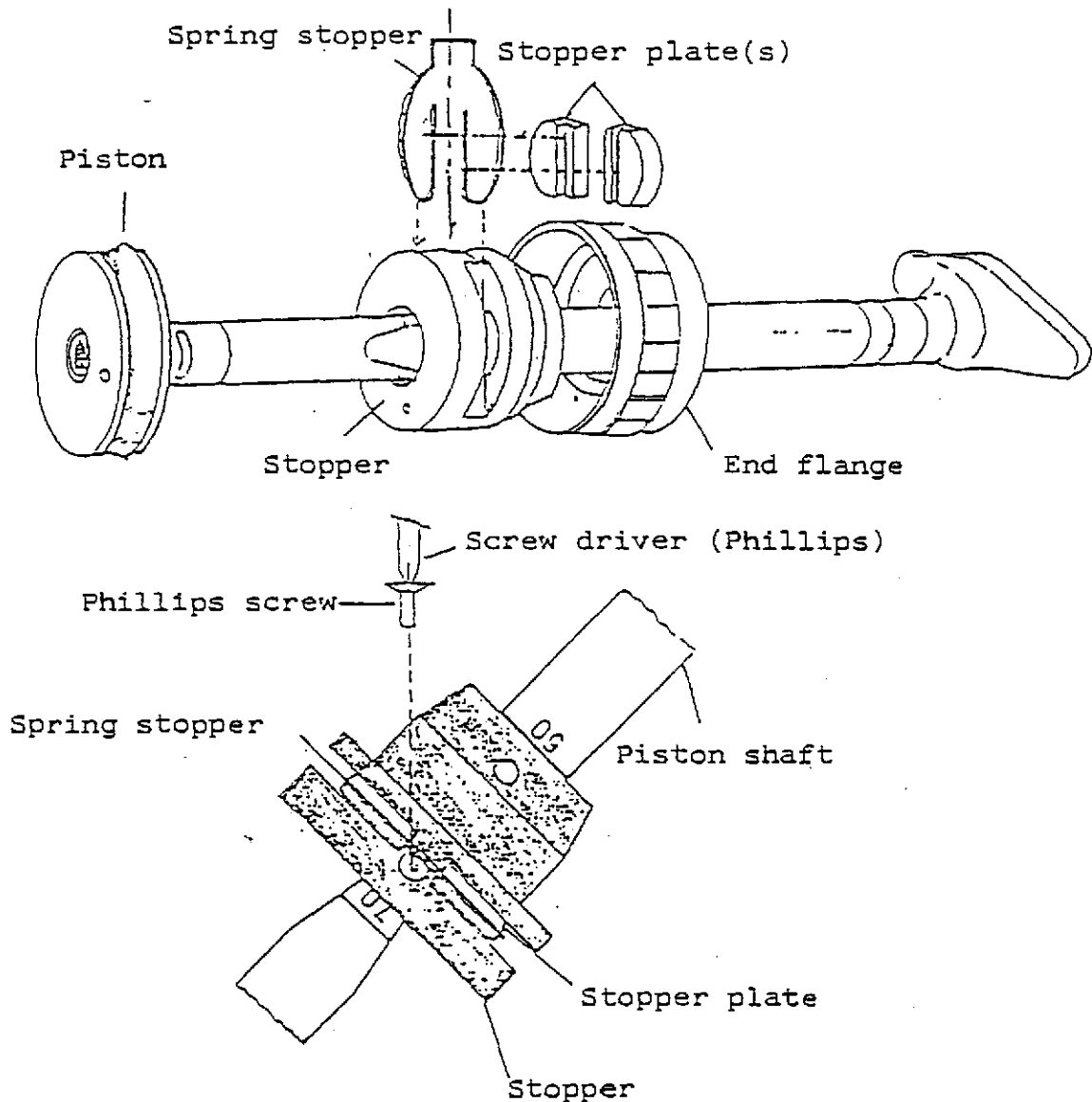


5.3 Replacing the stopper plate(s).

If the pump is used frequently, the stopper plate could wear, and may no longer hold the stopper in place. If this is so, replace with new stopper plates:

- 1) Remove the stopper spring (which holds the stopper plates in place) using a pair of tweezers and take out the stopper plates.
- 2) Replace with new plates after aligning the groove on the plates towards the piston head and sliding the stopper spring/plates assembly into the slot of the rod cover (stopper body).

- 3) Adjust the rod cover to the 50 ml line (it should be in the position that the stopper is set at for a 50 ml aspiration).
- 4) Screw the stopper spring assembly into the fixed position of the rod cover.



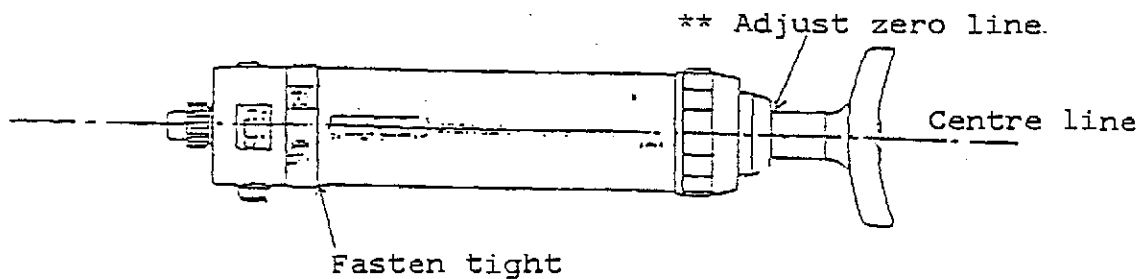
5.4 Fixing the piston rod:

- 1) Depress the piston into the cylinder and fix the rod cap onto the cylinder after inserting the rod cover.
- 2) Push in and pull out the piston rod several times while twisting the handle simultaneously, in order to make the piston packing sit evenly on the inside of the cylinder wall.

052

5.5 Adjustment of the zero line:

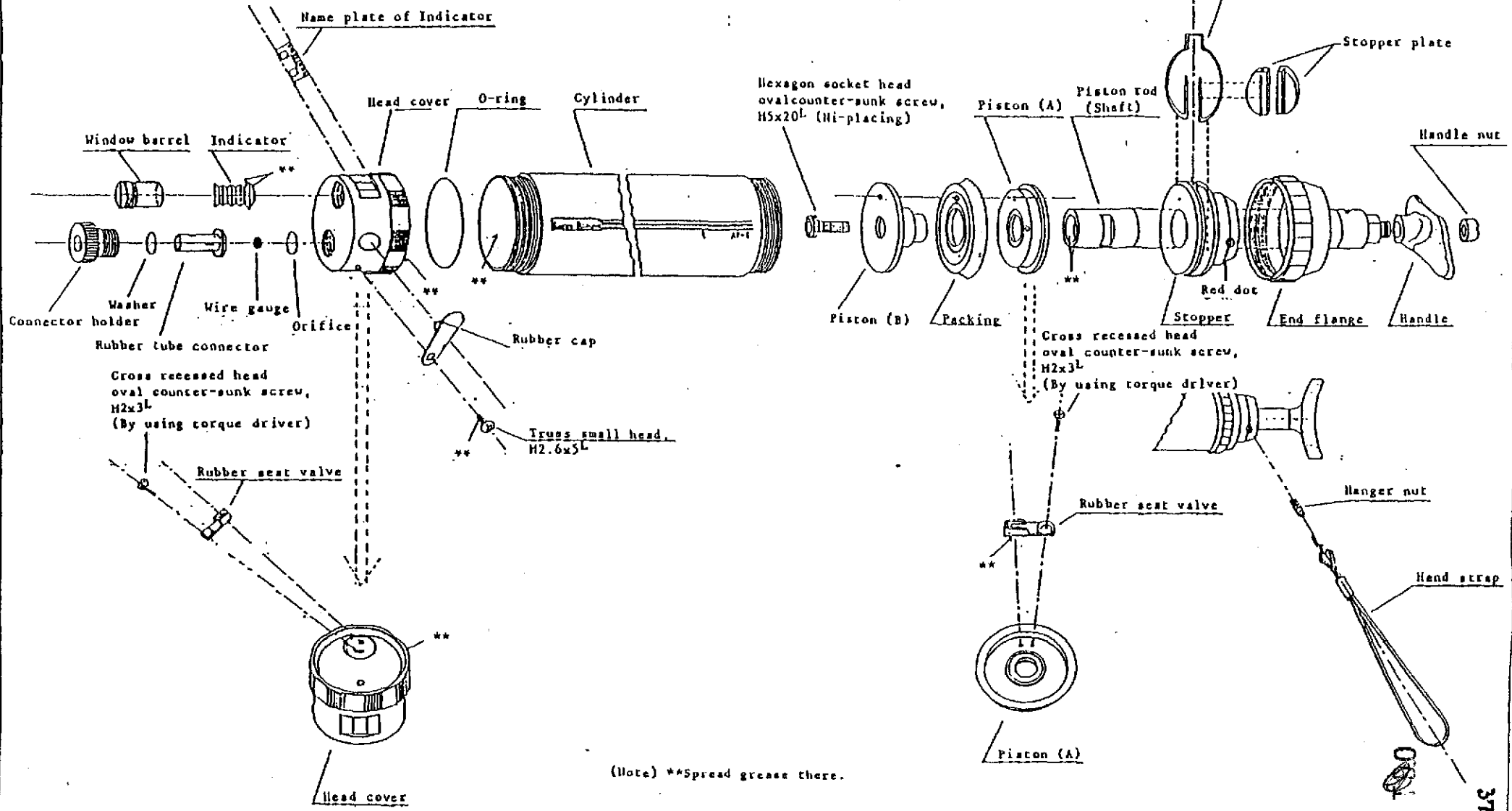
- 1) Inspect the rubber seat valve in accordance with procedure 2.
- 2) Fasten the head cover assembly to the cylinder and once it is sufficiently tight, align the indicator window with the KOMO/KITAGAWA mark on the cylinder in a straight line.
- 3) Unfasten the end flange of the cylinder, align the red dots with the KOMO/KITAGAWA MARK (and, thus, the indicator window) and re-fasten.



5.6 Re-examination:

After completion of the repair, inspect again in accordance with procedures 2 through 4.

6. KOMO KITAGAWA ASPIRATOR PUMP EXPLODED DIGRAM



品名	キタガワ式吸引ポンプ	部品名	ピストン (A)	材質	鋳鉄	数量	1	単位	個
品番	AP-1	規格	φ40×40	寸法	φ40×40	重量	0.15	単位	kg
製造	昭和37年	検査	合格	検査	合格	検査	合格	検査	合格
製造	昭和37年	検査	合格	検査	合格	検査	合格	検査	合格
製造	昭和37年	検査	合格	検査	合格	検査	合格	検査	合格



CARE AND USE OF CET SAFETY EQUIPMENT

**EQUIPMENT USED IN CONNECTION WITH SUSPECT FUMIGATED
CONTAINERS**

TRAINING PACKAGE # 2

**FULL FACE MASK CANISTER
RESPIRATORS**

PREPARED BY THE CET SAFETY EQUIPMENT TRAINING WORKING PARTY

AUGUST, 1991

FULL FACE MASK CANISTER RESPIRATORS

INTRODUCTION

In accordance with the "Guidelines for ACS personnel where there is potential for exposure to fumigant methyl bromide" and Australian Standard AS 1715-1982 this ACS training package has been prepared to instruct Officers in the use and maintenance of respiratory protective devices issued for use where there is potential for exposure to methyl bromide.

This package specifically addresses the use and maintenance of the respiratory devices and must be read in conjunction with:

- (i) the methyl bromide guidelines
- (ii) the standard operating procedures for container ventilation established in each Region
- (iii) the Kitagawa aspirating pump training package.

As there is no uniformity of respiratory equipment currently on issue to the Regions, comments in this package are generic in nature, but based upon

- (i) the Protector RFF 50 series full face canister respirator
- and
- (ii) the Protector 500cc Methyl Bromide canister.

Regions may need to adapt this package to reflect the actual equipment on issue in the Region.

A copy of the Western Australian standard operating procedure for ventilating methyl bromide fumigated containers is attached to this package and may serve as the basis for local procedures.

The package is formatted primarily as training notes for instructors who will train Officers in the theory and practice of CET safety equipment use and care. The notes can serve as a basic structured lesson plan for use in a " formal" theory/practical training environment, providing

opportunity for the instructor to adjust the content for local conditions. Alternatively the notes can be incorporated in existing workplace training manuals.

Overhead projection masters are provided and are suitable for use in " formal " training situations or as hand outs in smaller training groups.

Whether initial or refresher training is conducted in a classroom or in the workplace it is vital that instructors ensure trainees receive both the theory and practical instruction in respirator use and maintenance procedures.

All officers working in areas of potential exposure to fumigants (e.g. methyl bromide) must be aware of the dangers of such exposure and the relevant ACS guidelines.

All officers who are to be involved in any procedure that will entail the use of respiratory devices (e.g. container ventilation) must

- and (i) receive initial training based on this package
- (ii) have regular refresher training sessions. It is recommended that this be undertaken at 6 monthly intervals.

FULL FACE MASK CANISTER RESPIRATORS

TRAINING PACKAGE CONTENTS

As recommended in AS 1715-1982, this training package is to be used to instruct Officers in the correct way to use full face canister respirators and covers the following:-

SECTION	CONTENT
A	The need to wear a respiratory device
B	The principles on which the device is based and its essential parts
C	The applications and limitations of the device
D	How to recognise deteriorated performance or improper functioning of the device
E	The approximate time the device should give protection in particular conditions
F	Emergency procedures
G	Fitting full face respirators
H	Maintenance of the device
Annex 1	OHP/handout masters
Annex 2	W.A. standard operating procedure for ventilating methyl bromide fumigated containers.

SECTION A

THE NEED TO WEAR A RESPIRATORY DEVICE

The "Guidelines for ACS Personnel where there is potential for exposure to fumigant methyl bromide" details the potential dangers of short and long term exposure to that fumigant. Relevant sections are:

- . Introduction
- . Effects of exposure
- . Short term exposure
- . Long term exposure
- . Exposure limits

It is significant that the guidelines stress that there is no safe exposure threshold for methyl bromide, and officers engaged in container ventilation procedures must be fully equipped and clothed before entering a fumigant contaminated area. Full face mask canister respirators fitted with a methyl bromide specific canister are the minimum respiratory standard in this situation.

Respiratory devices, together with safety clothing and boots must be worn by officers engaged in container ventilation to ensure

- . the immediate safety of the officer concerned
- . long term health of the officer
- . efficient and effective work practices

The ACS, supervisors and individual staff members have an obligation to provide a safe working environment and adhere to safe work practices.

SECTION B**PRINCIPLES ON WHICH THE RESPIRATORY DEVICE WORKS AND ITS
ESSENTIAL PARTS**

The full face mask canister respirator is designed to protect the user from inhalation of fumigant and absorption via the eyes and facial skin.

Basically the properly fitted mask makes an airtight seal around the face and works on a "one way" air circulation system with air

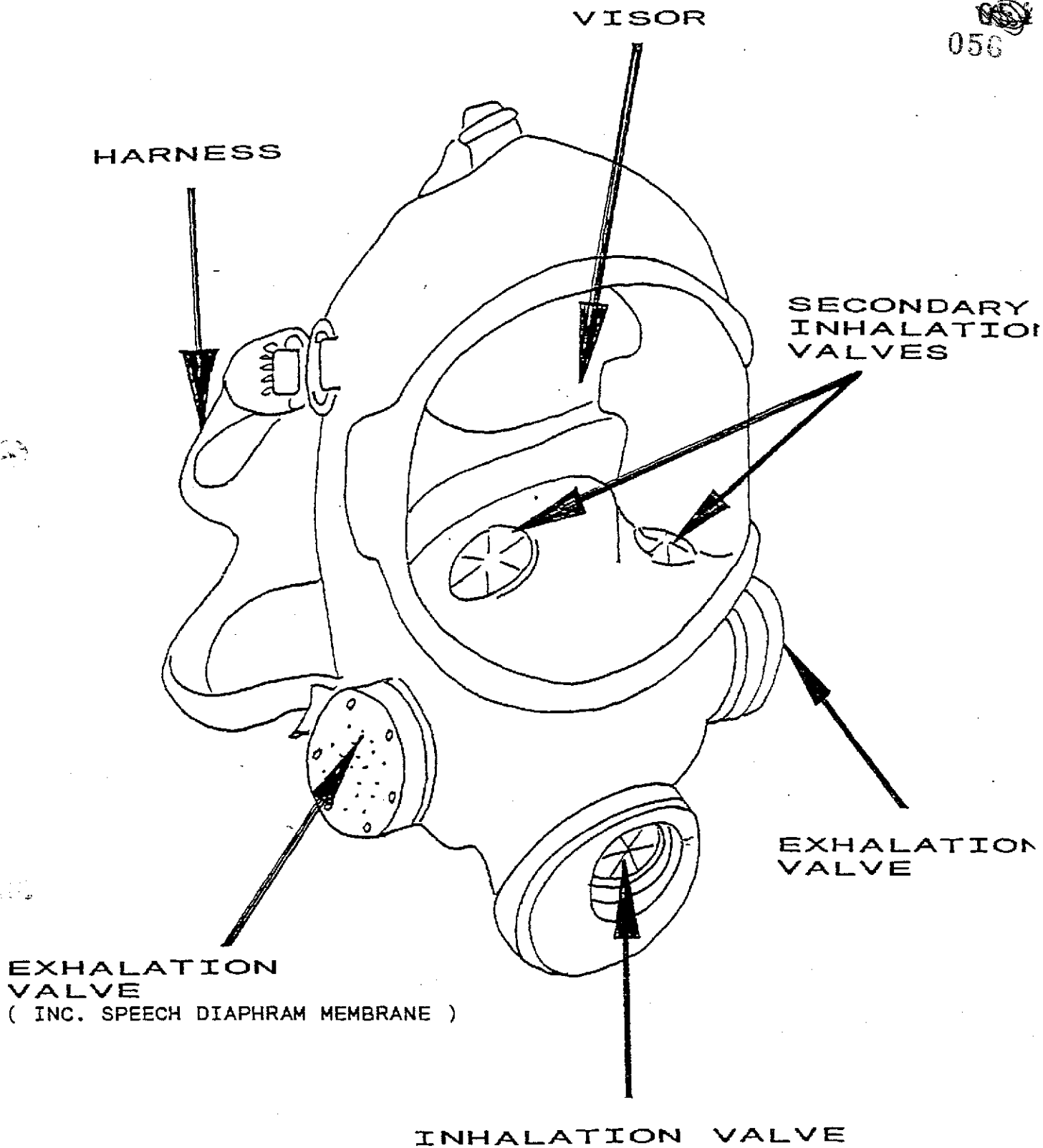
- . drawn in through and filtered by the filtering canister
- . through the inlet (inhalation) one way valve into the face mask
- . into the mouth/nose compartment via one way valves
- . exhaled through the one way exhaust (exhalation) valve.

The gas/vapour filtering canister contains high activity granular carbons. Carbon has the capacity to absorb and an affinity to a range of chemicals and is specially treated to enhance its properties in relation to specific toxins. There is no general toxic filter, so it is important that the toxic gas/vapour is identified and the correct, specific canister is selected before entering the contaminated area.

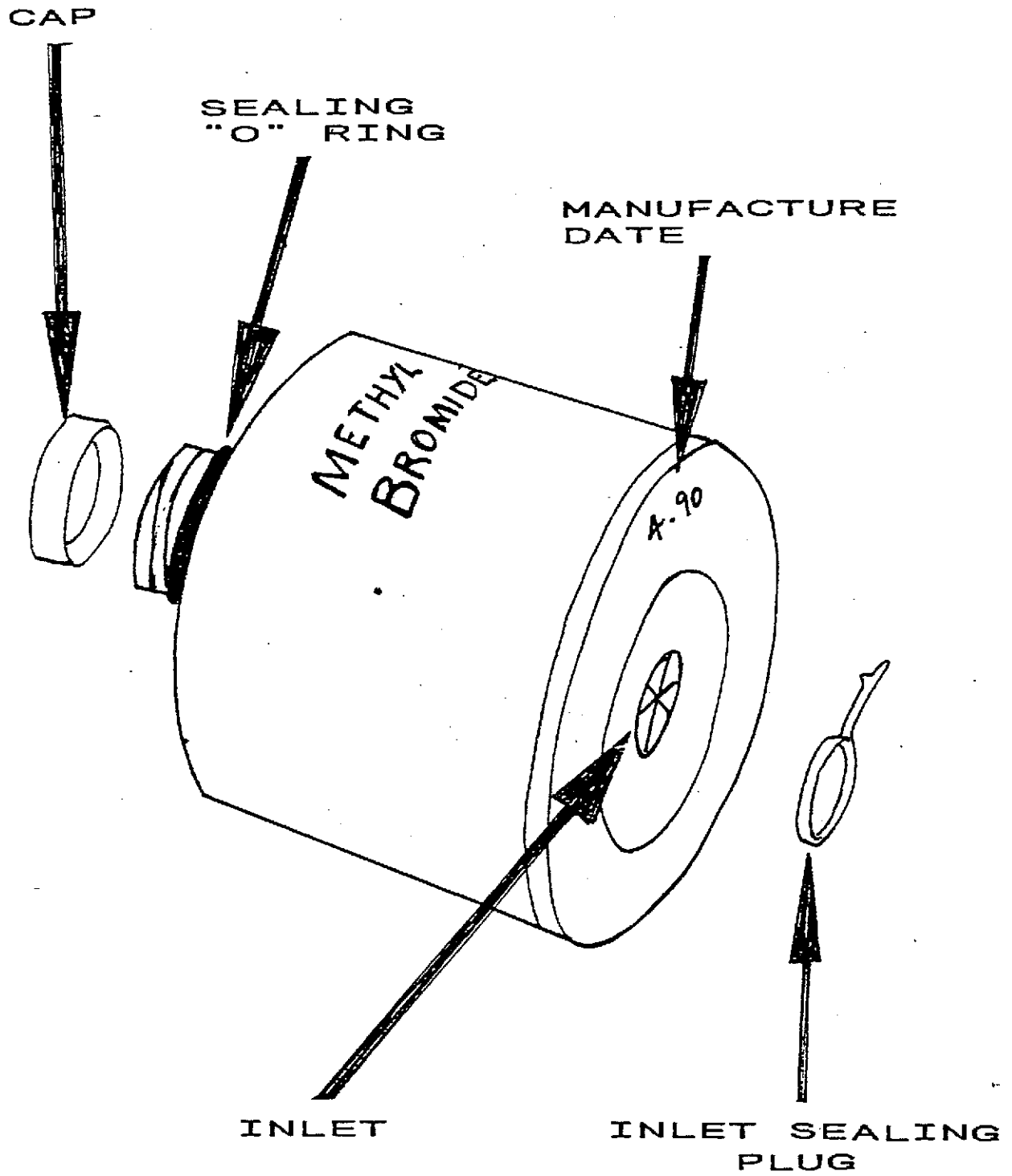
Diagram # 1 illustrates the components of the full face mask

Diagram # 2 illustrates the components of the filtering canister.

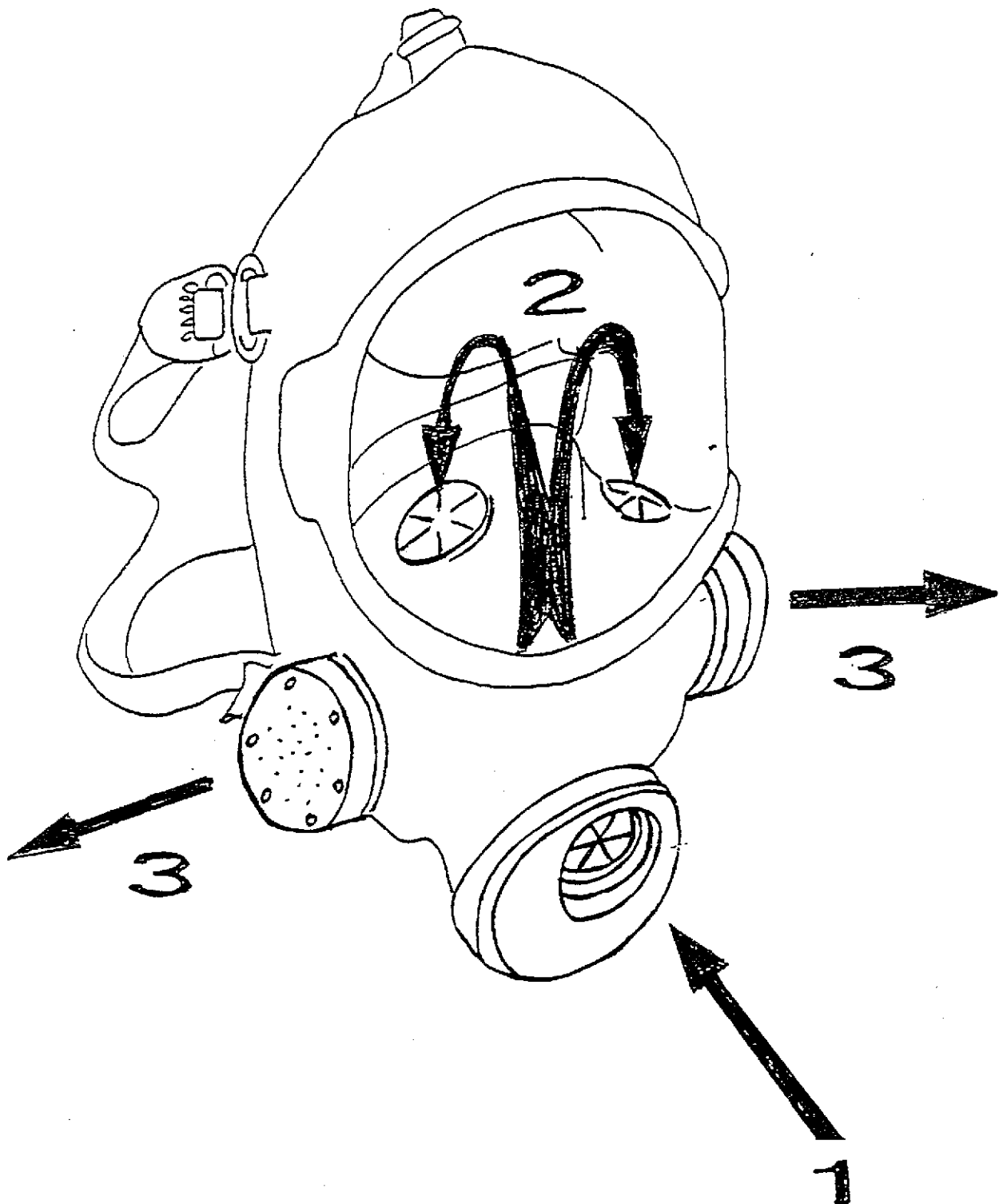
Diagram # 3 illustrates the air circulation system.



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054



SECTION C

THE APPLICATIONS AND LIMITATIONS OF THE DEVICE

APPLICATIONS

The full face mask canister respirator fitted with a methyl bromide specific filtering canister is to be used *in conjunction with the protective clothing and boots specified in the methyl bromide guidelines* by all Officers engaged in venting methyl bromide contaminated containers whilst they are in the contamination area.

The configuration is suitable where there is no lack of oxygen and the nature and level of fumigant contamination has been confirmed.

LIMITATIONS

Canister type respirators are only suitable in situations where no oxygen deficiency exists.

The canister type respirators are not to be used when the concentration of contaminant is found to be excessive or cannot be quantified. *When ventilating methyl bromide fumigated containers a concentration of 30 PPM is considered excessive.*

Some Officers cannot, due to personal problems, use respirators. Medical conditions that may prevent use are

- diabetes
- epilepsy
- alcoholism
- punctured ear drum
- skin sensitivities
- respiratory tract diseases
- any heart condition

Other conditions that may limit the use of respirators are

- claustrophobia induced by wearing a respirator
- any breathing difficulty experienced when wearing a respirator

Standard spectacles will interfere with the fit of the full face mask and cannot be worn without modification.

It is important that the respirator obtained is properly suited to the person who uses it. The fit of a mask should be determined prior to its issue to and use by an officer.

Respiratory masks are not effective if the facial seal is incomplete. The most common causes of this is failure to " fit " the mask on the face and facial hair. _____

Facial hair

- . bearded persons cannot successfully wear a full face (or half face) respirator
- . moustaches may interfere with the peripheral seal of the mask
- . sideburns should not extend below mid ear
- . stubble interferes with proper sealing
- . care must be taken that long hair is not trapped beneath the fitting surface

SECTION D**HOW TO RECOGNISE DETERIORATING PERFORMANCE OR IMPROPER
FUNCTIONING OF THE DEVICE**

Whilst using the respiratory device officers should be alert to any leakage of air around the facial seal, the distinctive odour of the fumigant warning agent, or increased breathing resistance.

The methyl bromide guidelines list the effects of short term exposure as

- . headache
- . dizziness
- . nausea
- . vomiting
- . blurred vision
- . slurred speech
- . convulsions.

At the first signs of any of these symptoms, the respirator wearer must immediately be removed from the contaminated area and the first aid procedures outlined in the methyl bromide guidelines are to be initiated.

Proper maintenance of equipment, inspection, fitting and testing prior to use will ensure that the device functions correctly. These procedures are detailed in later sections of this package.

050

EFFECTS OF SHORT TERM EXPOSURE
TO METHYL BROMIDE

HEADACHE

DIZZINESS

NAUSEA

VOMITING

BLURRED VISION

SLURRED SPEECH

CONVULSIONS

SECTION E

APPROXIMATE TIME THE DEVICE SHOULD GIVE PROTECTION

In ventilation procedures, a critical factor in the time the respiratory device will protect the wearer from the effects of methyl bromide is the life of the canister. Canisters have a shelf life of 5 years from the date of manufacture however their use as effective filters is diminished after a one hours (cumulative) use in an exposure situations, or a maximum of 2 hours where the exposure is minimal.

Note that the date of manufacture is marked on the base of the canister. (Protector brand)

It is vital that the accurate records of the canister's use are maintained - a label on the canister is recommended, and in any case the canister should not be used beyond 6 months from initial opening.

SECTION F

EMERGENCY PROCEDURES

It is essential that in any situation where respiratory devices are to be used steps are taken to minimize the risk and ensure personnel and procedures are in place to cope with any emergency that may arise. The methyl bromide guidelines and the standard operating procedures for ventilating containers set out the protective equipment, clothing and procedures for venting containers.

In general, the nature and concentration of fumigant contamination, and any oxygen deficiency must be determined before any officer enters the contaminated area.

If an officer using a respiratory device alerts to any of the symptoms outlined in Section D or any other factors that constitute a danger, the officer is to leave the contaminated area immediately.

Wherever any respiratory device is used in a toxic environment, one or more suitably equipped and trained assistants should be standing by to initiate rescue action should an emergency situation arises.

SECTION G

FITTING FULL FACE CANISTER RESPIRATORS

It is important that the condition and proper fit of a mask is established before an officer enters a contaminated area. The following sequence of checks and tests should ensure the mask is properly fitted and functioning correctly.

Check that the canister is not damaged and within use life limits. Particularly check condition of sealing ring.

Check the condition of the mask

- . inhalation valves
- . exhalation valves
- . visor
- . mask body, particularly the seal areas
- . adjustable straps of the head harness.

Refer to Diagram # 1 for identification of full face mask components

Ensure the mask has been thoroughly cleaned prior to use
(refer to Section H - Maintenance)

Remove the canister cap and screw canister into inlet port of mask.

Remove seal from base of filtering canister.

Place the mask in position on face and adjust the straps of the head harness to obtain a comfortable fit and facial seal.

To check the facial seal, place the hand over the inlet area of the filtering cartridge and draw air into the lungs. Slight negative pressure is established and the mask should adhere to the face for at least 15 seconds.

If negative pressure cannot be maintained there must be a leak in the system. A leak around the sealing surface can be felt by the passage of air through that area. The area of the leak should be cleaned and the mask refitted to the face.

If after fit testing by the above method negative pressure cannot still be maintained in the mask the exhalation valves

and the seal between the cartridge and the mask should be checked and cleaned or replaced as necessary.

If negative pressure still cannot be maintained the mask should be thoroughly cleaned and tested for breaks and cracking of the facepiece material and sealing surface.

SECTION H

MAINTENANCE OF THE DEVICE

CANISTERS

The use and life of a canister is to be checked before and after each use, and canisters that have reached the extent of their life are to be disposed of. Proper records of canister use must be maintained - a label on the canister will assist in recording actual use and establishing the life of the canister.

The exposed surfaces of canisters can be cleaned with a damp cloth but care must be taken to ensure water is not allowed to enter the canister.

Canisters showing signs of dents, corrosion or other damage should be replaced.

Canisters must be removed from the facepiece and stored in a separate facility that will allow free passage of air.

Canisters are stored with the cap and inlet seal in position.

FULL FACE MASK

The user of the mask must wash the mask in warm soapy water, rinse it in cold clean water and thoroughly dry it after every use. During this operation the valves should be checked, cleaned and replaced if necessary.

It is essential that any damaged or deteriorated components of the mask are replaced before the device is used again. A device requiring repair is to be clearly identified as being unfit for use and removed from issue until repairs have been effected.

The respirator facepiece should be placed in a plastic bag and stored in a clean, dry area - preferably an area unaffected by extremes of heat and not exposed to sunlight.

SECTION I

SUMMARY OF RULES FOR USE OF RESPIRATORY DEVICES

NEVER ...

Leave a canister in a respirator

- *this can cause the transfer of the chemical that the unit has been used to protect against from the face of the cartridge to the mask's interior*

Leave a respirator dirty after use

Use a unit unless the unit has been thoroughly cleaned

Store a respirator in an area where it can be contaminated by dirt or dust

Use a respirator for any purpose other than for which it is designed or recommended

Store respirator facepieces and used canisters in the same area

Assume that a respirator is properly fitted without first testing the seal

Try to use a respirator on an unshaven face and expect effective protection.

ALWAYS

Label a canister and record usage

Ascertain the life of a canister before using it

Make sure the cartridge selected is appropriate for the substance you are attempting to protect against

Make sure that the respirator is appropriate for the situation

Clean the respirator after use

Check the respirator for fit before entering any area where it's use is required.

NEVER

LEAVE A CANISTER IN A
RESPIRATOR

LEAVE A RESPIRATOR DIRTY

STORE RESPIRATOR WHERE IT
CAN BE CONTAMINATED

USE A RESPIRATOR FOR NON -
RECOMMENDED PURPOSES

STORE RESPIRATORS AND USED
CANISTERS TOGETHER

USE RESPIRATOR WITHOUT FIRST
TESTING THE SEAL

TRY TO USE A RESPIRATOR ON AN
UNSHAVEN FACE

ALWAYS . . .

LABEL A CANISTER AND RECORD
USAGE

ASCERTAIN LIFE OF CANISTER
BEFORE USE

SELECT APPROPRIATE CANISTER

MAKE SURE THAT THE RESPIRATOR IS
APPROPRIATE FOR THE SITUATION

CHECK THE RESPIRATOR FOR FIT
BEFORE USE

**AUSTRALIAN
CUSTOMS SERVICE**

041

STANDARD OPERATING PROCEDURES FOR THE DRILLING AND AIRING OF FUMIGATED CONTAINERS . (METHYL BROMIDE)

1. Drill one hole in the rear of the container as per " Standard Operating Procedures for the Drilling of Holes in Containers ".
2. Test the container for Methyl Bromide as per Kitagawa (Methyl Bromide) Test Kit operating procedures .
3. Where there is a reading of 5 parts per million or more on the test kit , the container is deemed unsafe and a ventilation procedure must be followed before examination takes place.
4. The officer- in- charge and another nominated officer should be appropriately attired. They should wear cotton drill long sleeved overalls buttoned at the throat and wrists, and gloves impervious to methyl bromide with the tops covered by the overalls.
5. A full face respirator which complies with AS1716 (Respiratory Protective Devices) with a methyl bromide type 5 canister is also to be used when no oxygen deficiency exists and where there is a concentration of no more than 30 parts per million.
A secure fitting is essential. Facial hair, long hair and side burns may hamper the effectiveness of the respirator.
Canisters have a shelf life of 5 years from the date of manufacture and there use as effective filters is diminished after one hours cumulative use in exposure situations, or a maximum of two hours where exposure is minimal. It is therefore vital that accurate records of the canister's use are kept and the canister labelled. The canister should not be used beyond six months from initial opening .
6. Only the officer-in-charge and an assistant , with all protective gear , should be in the vicinity of the container. The remaining officers are to vacate the area for a minimum of one hour while ventilation takes place.
7. The ventilation hose of the extraction unit is to be placed as far as possible within the container. Subsequent testing for methyl bromide will follow and the protected officers may re-arrange cargo and reposition the equipment.
8. When the officer-in-charge declares the container free from fumigant , other officers may commence work on that container; however tests should be conducted at two hour intervals and the ventilation procedure repeated if a positive reading occurs.



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STANDARD OPERATING PROCEDURES FOR THE DRILLING OF HOLES IN CONTAINERS

The below mentioned procedures have been agreed to between the Australian Customs Service and the Australia Chamber of Shipping Ltd.

1. These standard procedures will be implemented at all Australian ports.
2. Inspection drilling will only be performed where no alternative method of inspection is feasible.
3. A maximum of 3 drill holes will be made in 20 foot containers, 1 at the end of the container farthest from the door, and 1 on each side. For 40 foot containers a maximum of 5 drill holes will be made, with 2 holes on each side.
4. Where inspection drilling is carried out the container must be returned to its original sealed condition.
5. Drill holes are to be no greater than 1/4 inch or 6.5 mm, and made using a drill which will not penetrate more than 1 inch through the wall of the container.
6. All drill holes are to be sealed using silicon sealant and a rubber grommet. No other form of seal will be acceptable.
7. In the case of corrugated containers, drill holes should be made in the raised outer section of the corrugation, rather than the inner section, to avoid contact and possible damage to cargo.
8. In the case of inspections for the presence of methyl bromide, Customs officers should satisfy themselves that no suitable inspection or sampling holes already exist.
9. Where a container has already been drilled, existing drill holes should be re-opened for sampling purposes.
10. In all cases, the shipping company or agent with whom Customs have had contact regarding the container should be informed that drilling has been carried out. A pro-forma report (example attached) may be made after the event, but should be no later than one week following the inspection. The report will advise the container number, the date, and location of the inspection, and the responsible Customs officer for contact purposes.
11. The Shipping Company or agent will ensure that information outlined in the pro-forma is not provided to any third party including the owners of the goods.
12. Customs will take steps to ensure that all relevant Customs personnel are familiar with different container types and constructions, and with the procedures to be followed when drilling.

KITAGAWA (METHYL BROMIDE) TEST KIT

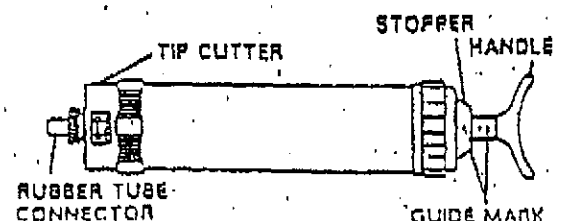
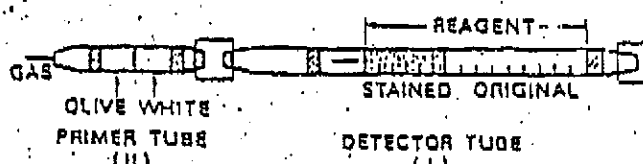
FOI Document #6

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Procedure for testing the presence of methyl bromide:

Prelim: Refer "Standard Operating Procedures for the Drilling of Holes in Containers:.

1. Take one primer tube (distinguishable by olive and white colours) and one detector tube (blue and white).
2. Break off both ends of each tube in the tip cutter facility provided on the main apparatus.
3. Firmly attach the detector tube to the main apparatus in the rubber tube connector with the arrow on the tube pointing towards the apparatus.
4. Attach the rubber joining tube to the other end of the detector tube, then the primer tube with clear glass facing out.
5. Turn the handle of the KITAGAWA until the two red dots align. Insert the end of the detector tube into the hole to be tested and pull the handle of the apparatus until the markings on the handle have reached 100 (the handle will lock in this fully extended position.)
6. Wait approx. 1.5 minutes while the test occurs. Refer to the indicator window - when the red line has stopped moving the test on the hole is complete.
7. Give a quarter turn to the handle and depress handle completely.
8. If there is any methyl bromide present it will show on the detector tube as a stain measuring from zero upwards. If the test on a hole proves negative, move to another hole until all prove negative.
9. The detector tubes are only to be used on the one container, after which they should be replaced.
10. When testing is completed, rubber grommets and silicon are to be placed in the holes.





9. On completion of ventilation the contaminated clothing is to be placed in a sealable bag for laundering and the officers should take the first opportunity to shower.

10. Personnel records , completed by the officer-in-charge , are to be maintained for each examination where fumigants are detected.